*Not aired air/ground on Hawaii pass.

AFD Hawaii Cap Com, AFD.

Hawaii AFD, Hawaii Cap Com.

AFD Okay, you got our mission instruction

Hawaii Affirmative.

AFD Okay, do you have any questions.

Hawaii Negative.

AFD Okay, we are standing by here. E-Com is working on that tape recorder problem right now. They are looking into it. Trying to see what they can come up with.

Hawaii C-band track at Hawaii.

AFD Roger Hawaii.

Hawaii TM solid, Hawaii. Gemini 7, Hawaii Cap Com.

S/C Hawaii, 7 here.

Hawaii Okay, how are you doing?

S/C Pretty good. We are just watching the sunrise.

Hawaii Roger, we are showing you go here on the ground. We will be standing by. We have nothing for you.

S/C Roger, thank you.

Hawaii Flight, Hawaii.

Flight Hawaii, AFD, go ahead.

Hawaii Okay, he's looking good. I got a few readouts here you might want.

AFD Go ahead.

Hawaii Main bus current 2, 7.89, stack 2 also, 2.02, 2 bravo, 2.04, 2 Charlie, 3.69.

AFD Roger. We are reading all that good stuff on your summary message, young man.

Hawaii Roger. Looking real good.

AFD Roger.

Hawaii Telemetry and radar IOS at Hawaii.

AFD Roger, Hawaii.

END OF TAPE

This is Gemini Control Houston 214 hours 52 minutes into the flight of 7. We have just completed certainly the quitest revolution of the earth in this Gemini 7 flight. We had zero conversation around the loop last time except for individual stations calling up to acknowledge and 7 simply rogering and advising that -- being advised that the ground stations were standing by if they needed them. Then over the States we had a fairly active conversation going and it went like this.

Guaymas — Solid TM at Guaymas and all systems are go.

Flight — Rog.

Guaymas — Gemini 7, Guaymas Cap Com.

S/C — Go ahead Guaymas, Gemini 7.

Guaymas — Roger. Everything is looking good here on the ground. We would like to remind you of your transponder test coming up.

S/C — Thank you. Transponder is on.

Guaymas — Roger, we have it.

Flight — Guaymas, would you send us an A summary.

Guaymas — Roger, will do.

Texas — Gemini 7, this is Texas Cap Com.

S/C — Roger Texas.

Texas — We have you go on the ground. We would like to get a cryogenic quantity readout at this time. Will you place the cryo quantity read switch to the ECS O_2 position.

S/C — Roger, it's there.

Texas — To the fuel cell O_2 position.

AFD — Guaymas, this is AFD. Send us an LOS A summary.

Guaymas — Roger, we will.

Texas — To the Fuel Cell H_2 position. Turn the switch to the off position. Roger Gemini 7, we have nothing further and standing by.

S/C Texas, I'd like a clarification on the flight plan update. What time are we supposed to turn this transponder off please.

Texas Stand by. AFD, --

Flight We are checking, stand by. 2 14 50.

Texas 2 14 50, is that correct Flight.

Flight That's affirmative.

Texas Gemini 7, Texas Cap Com.

S/C Go ahead.

Texas The off time is 2 14 50.

S/C Thank you. Roger. Standing by.

Cap Com Gemini 7, Houston.

S/C Go ahead Houston. Gemini 7.

Cap Com Roger, I would like to inform you of our latest thinking on the reentry situation in case we do bring both of you down on the 14th day. The present planning would be to use revs 205 and 206 and we are able to target for the same touchdown point from both of those revs, so that is the way we would do it, and at the moment we feel we would want to bring 7 down first, and 6 after that on rev 206, although that could be changed if necessary for some reason.

S/C Roger, thank you.

Cap Com Also we would like to at this time change the Carnarvon purge to the next U.S. pass, that's the one you are coming up on.

S/C Roger we will stand by and we will not purge until we are back over the States.

Cap Com Roger. 7 were you using any attitude control across the U.S. this time for any reason.

S/C Negative.

Cap Com Roger.

S/C Why?

Cap Com We were just noticing some beacon performance here and wondered if it was due to that.

S/C Well as a matter of fact, the spacecraft is hardly drifting at all. We were almost straight nose down all the way across.

Cap Com Straight nose down all the way across the U.S.

S/C Rog. Most of the way.

Cap Com Roger. This looks like another one of those good South America Coast passes.

S/C It sure is. We are looking right now all along the coast, and it is just beautiful.

Cap Com Gemini 7, Houston.

S/C Houston, you are just barely readable, say again.

Cap Com Roger, G and C tells me he hasn't seen any noticeable fuel usage since before the rendezvous. You guys are really cutting it off.

S/C That's what you told us to do.

Cap Com Roger doger.

S/C We always ..... if they are good ones.

Cap Com Say again. You cut out on that last statement, 7.

S/C I say we always follow instructions if they are good ones.

Cap Com That's the only kind.

S/C You're right, like take the suits off, don't use fuel.

Cap Com Drink water.

S/C Roger, drink water. We are doing everything.

Cap Com Very good. What do you shows on OAMS quantity.

S/C We now show 22 percent.

Cap Com Roger, 22 percent. It turns out 7, that we really aren't

limited very much at all on scheduling experiments by fuel. We are having so much weather plus we have completed so much that there isn't a lot left that isn't covered by weather, so the fuel really isn't hurting us.

S/C Very good.

Antigua LOS Antigua.

This is Houston here. You heard that OAMS fuel reading that Frank Borman gave, that actually corrects here on the ground, taking into account certain factors of his gauge reading onboard. It corrects out to 26 percent remaining, or on the order of 49 pounds of usable propellant onboard. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston at 215 hours, 28 minutes into the flight. We have a statement provided for us by the Air Force, coordinated with NASA this morning on the miss fire of the Gemini 6A booster yesterday. It is significant in that it introduces new information into the situation that occurred yesterday morning on Pad 19. The statement is as follows: Early release of the pad disconnect plug caused a command to shut down the engines of Gemini 6A booster Sunday. The early release of the pad disconnect plug is under investigation and will be corrected. A subsequent data analysis of all systems also revealed that one of the first stage engines was malfunctioning at the time of shutdown. Further concentrated review isolated the problem in the gas generators system which provide power to drive the propellant pumps. Late this morning the gas generators system was disassembled and a foreign object was found which confirms the analysis. This object was a plastic dust cover inadvertently left in the oxidizer inlet port to the gas generator. The system is being cleaned and will be reinstalled on the engine late tonight. All work schedules indicate that a Wednesday morning launch attempt is possible. Even if the problem with the pad disconnect plug had not occurred the engine malfunction would have caused shutdown to be commanded 1.03 seconds later. These and other safety features are incorporated in the Gemini launch vehicle to prevent the vehicle from lifting off with any malfunctioning system. That's the end of the statement.

I also want to correct an OAMS figure given in the previous announcement. We gave you a figure of 49 pounds remaining of usable onboard propellant. That was an incorrect figure. The correct figure is 94 pounds of usable propellant remaining in 7 which is 26 percent of its original takeoff supply. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control, Houston. A few minutes ago as Gemini 7 swung north of the Carnarvon Station, the 7 crew said good night or good day to the Carnarvon personnel; and here's how that conversation went.

CRO Gemini 7, Carnarvon Cap Com. We have nothing further at this time. We are standing by. This will be our last pass for this series; so, good night from Australia.

S/C Good night, Australia. We'll see you tomorrow.

CRO Roger. Carnarvon has had LOS.

HOUSTON Roger, Carnarvon. And, thank you for your support; and we'll be talking to you tomorrow.

CRO Roger. Enjoyed working with you tonight.

HOUSTON Roger. We have enjoyed it too.

END OF TAPE

Gemini Control Houston here, 216 hours into the flight. Our latest quantity readings show these values, ECS, that is, the breathing system oxygen, 67.7 percent remaining, fuel cell oxygen, 56.7 percent, fuel cell hydrogen 63.2 percent. Over Hawaii a few minutes ago, Ed Fendell, the Capsule Communicator out there and 7 had an interesting discussion of all the system operations and here is how the conversation went.

Hawaii — TM solid Hawaii.

Flight — Roger, Hawaii.

Hawaii — Gemini 7, Hawaii Cap Com.

S/C — This is 7, go.

Hawaii — Okay we want to run a little test here. We are showing you go here on the ground. We want to run a little test to see about this tape recorder.

S/C — Roger.

Hawaii — Okay, I'd like you to take your tape recorder control circuit breaker to the open position.

S/C — Tape recorder control in the open position.

Hawaii — Okay, I want you to close your tape recorder power circuit breaker.

S/C — Tape recorder power is closed.

Hawaii — We have tape run at Hawaii.

Flight — Roger Hawaii, we copy that.

Hawaii — It just went off.

Flight — What happened?

Hawaii — I don't know. Stand by, we want to talk a second.

Flight — (laughter)

Hawaii Okay, I'm going to try a dump, Flight.

Flight Go ahead.

Hawaii Gemini 7, I would like you to close your tape recorder control circuit breaker.

S/C Tape recorder control closed.

Flight Well don't leave us in the lurch there.

Hawaii Okay, I'll tell you what happened. We tried -- we turned it to delayed time -- correction, we closed that circuit breaker, we turned the delayed time carrier on, and -- I mean we turned the delayed time carrier on then we closed the circuit breaker. When we closed the circuit breaker naturally we got the delayed time carrier nice and clean. We transmitted tape dump on and we got a little spike but nothing much else and that's where we are now, I transmitted tape dump off and delayed time carrier off and we are now conferring a little bit here and then we are going to see where we want to go.

Flight Say those last two things you did.

Hawaii We turned tape dump off and delayed time carrier off and at the present time we have the tape recorder power CB closed and the tape recorder control CB closed.

Flight How about Charlie Charlie 06, according to E-Com, what does that show?

Hawaii Jumps to 80, drops to 60 and then bleeds off , over a minute. Takes about a minute to bleed down.

Flight Roger. According to E-Com here, that means the tape recorder is running but you are not getting any tape movement.

Hawaii Okay. Hold on here a second Flight. Can I try another quick tape dump?

Flight Try anything you like.

Hawaii Okay. Flight, Hawaii, we tried another tape dump and we just got a glitch, that was it.

Flight Okay, well make sure you have the tape recorder power circuit breaker open before you have LOS.

Hawaii Okay, I'm going to go back to tape recorder power CB open and tape recorder control CB open.

Flight Control should be closed. Tape recorder control circuit breaker closed, tape recorder power circuit breaker open.

Hawaii Okay, we'll end up in that configuration.
Gemini 7, Hawaii.

S/C 7, roger.

Hawaii Okay, will you take your tape recorder control circuit breaker and close it please.

S/C The tape recorder control is in the closed position, you want it open?

Hawaii No, I just want to make sure it is closed and your tape recorder power circuit breaker to the open position.

S/C Roger, tape recorder closed and tape recorder power is now open.

Hawaii Okay, very good.

Flight How about telling him you had no joy in the test.

Hawaii You really hit me. Okay, it doesn't look like we solved it.

S/C Roger.

Flight Didn't mean to hit you, we just wanted you to let him know what the situation was up there.

Hawaii Yeah, well that's okay Flight. We did get that light though

for a second.as we went into that change circuit breaker position right in the beginning.

Flight Right.

Hawaii And the second time we tried to dump we got the same thing but Charlie Charlie 06.

Flight Rog.

Hawaii We also noticed one other thing. That when we changed the circuit breaker configuration we would get a glitch in our real-time telemetry.

Flight Rog.

Hawaii And the transponder is out.

Flight Roger.

Hawaii Hawaii has LOS.

END OF TAPE

Gemini Control, Houston, here. 216 hours, 23 minutes into the flight of 7. And, we have a conversation taped with 7 as it swung down the Central American area, across the Isthmus, in its first pass today across South America. Here's how the conversation went.

GYM Guaymas has solid TM and all systems are go. AFD, Guaymas

HOUSTON Go ahead.

GYM Roger. He doesn't have his tape recorder #1 turned on. Should I remind him to turn it on?

HOUSTON That's affirmative. It should be on.

GYM Roger. When is this transponder test supposed to be over?

HOUSTON It's supposed to have been over a long time ago.

GYM He still has it on.

HOUSTON Tell him to turn it off.

GYM Gemini 7, Guaymas Cap Com.

S/C Go ahead Guaymas. Seven here.

GYM Roger. You should have your bio-med tape recorder #1 to continuance at this time.

S/C Roger.

GYM And, your transponder test should be over by this time, also.

S/C Righto.

GYM Roger. We have it. Everything looking good here on the ground. We don't have anything else for you. We'll be standing by.

S/C Thank you.

HOUSTON Texas go remote. Guaymas go local.

TEXAS Texas remote.

HOUSTON Gemini 7, Houston.

S/C Go ahead, Houston. Seven here.

HOUSTON Roger. I'd like to clarify a point on the flight plan update I gave you. The MSC 2 and 3 experiment at 216:27; we gave you a note on the end of it that said real time TM. Just like to make sure you understand what that means. It means ...Just indicating to you that we'll be taking real time TM data on that since the tape recorder's inoperative.

S/C Roger.

HOUSTON Gemini 7, we're standing by for your fuel cell purge. You've got to remember to put the fuel cell control circuit breaker on, Jim, before you purge Section Two.

S/C Roger. Will do. I'll leave it off until we get....I'll put it on now.

HOUSTON And, then we want to turn it off as soon as your finished.

S/C Roger. Purge complet, Houston, and fuel cell control #2 is on the line.

HOUSTON Roger, Gemini 7. Okay, we showed that the circuit breaker stayed in all the way. You had a good purge.

S/C Roger. Good purge.

HOUSTON Gemini 7, Surgeon has a brief word for you; and then I have a comment for you, or statement, on the Gemini launch vehicle for 6. Jim, I'd like for you to tell me if those cuffs are still firm enough around...if they're tight enough on your legs there to the same extent that they were when you launched; and if not, can you tighten them up with the laces?

S/C Roger. I can. They have been tightened several times. I can get it real easily. They're still working, too.

HOUSTON Very good. You've already had to tighten them 2 or 3 times, huh?

S/C That's right. The original tie was rather loose.

HOUSTON Very good. We're going to give you a maintenance certificate.

S/C I'm working for one, Flight.

HOUSTON Jim, the...is Frank listening, also? He'd be interested in this.

S/C Roger.

HOUSTON We have a statement released today on Gemini 6. And, I'll read through it fairly quickly. It's probably the best way to give it to you. Are you ready, 7?

S/C Roger. We're listening.

HOUSTON Early release of the Pad disconnect plug caused a command to shut down the engines on Gemini 6 A booster Sunday. The early release of the Pad disconnect plug is under investigation and will be corrected. Subsequent data analysis of all systems also revealed that one of the first stage engine systems was malfunctioning at the time of shutdown. Further concentrated review isolated the problem in the gas generator system, which provides power to drive the propellant pumps. Late this morning, the gas generator system was disassembled; and a foreign object was found which confirms the analysis. This object was a plastic dust cover inadvertently left in the oxidizer inlet port to the gas generator. The system is being cleaned and will be re-installed on the engine late tonight. All work schedules indicate that a Wednesday morning launch attempt is possible. Even if the problem with the Pad disconnect plug had not occured, the engine manfunction would have caused shutdown to

be commanded 1.03 seconds later. These and other safety features are incorporated into the Gemini launch vehicle to prevent the vehicle from lifting off with any manfunctioning system. How about that!

S/C We'll buy that. Gemini 7, the Sunday target vehicle, will be standing by for Wednesday's lift off.

HOUSTON Roger. We're going to send them after you.

ANTIGUA Acquisition, Antigua.

HOUSTON Seven. Both of the MSC 4 sites, that is Hawaii and Ascension, are down at the present time for equipment. We do not have an estimated time of operation. White Sands, as you know, is scrubbed today as an alternate because of weather. It is operational, however, and we will try it as soon as we get it. As a matter of fact, we're planning a pass for tomorrow on it in conjunction with a D-4. We feel that Frank can boresight the spacecraft on the D-4 site, and Jim can try to sight the Laser independently on the same pass. I'd just like to confirm that that sounds okay with you guys.

S/C Roger. We'll give that a try.

HOUSTON Roger. Seven, Flight is interested in how are things on the Amazon.

S/C It's a fine journey. Better than Disneyland.

GRAND TURK LOS, Grand Turk.

END OF TAPE

Gemini Control Houston here, 216 hours, 36 minutes into the flight. Elliot See got fantastic range on communications just a few minutes ago. He sent a UHF voice signal through the Antigua site and it reached 7 when 7 was almost down to the Rose Knot Victor area off the east coast of South America. Then the next conversation is from the Rose Knot Victor Cap Com with 7. Here's how it goes.

CAP COM	Gemini 7, Houston, do you still read?
S/C	Roger, go ahead.
CAP COM	We've had a question of whether you can see the Andes Mountains from your present position.
S/C	We're flying a horizon scan position for this UHF test, Elliot. Yesterday, last night we saw the Andes just perfectly but we only got a couple of pictures of them.
CAP COM	Roger. Is this hurting your miser's sole, Frank, to use a little fuel here?
S/C	For a UHF test, yes.
CAP COM	Roger, copy that.
FLIGHT	Standing by, any questions?
RKV	No questions.
FLIGHT	Roger. How you feel there today, Bill?
RKV	Real good, Flight.
FLIGHT	Very good.

RKV How do you feel?

FLIGHT I feel great. Did you hear that statement we just read?

RKV That's affirmative.

FLIGHT Thought you'd like that.

RKV There should be a job in Quality Control for somebody.

FLIGHT Rog. RKV Cap COM, Houston Flight.

RKV Go ahead, Flight.

FLIGHT Send us an A summary, please.

RKV Roger. RKV has telemetry solid.

FLIGHT Roger, RKV.

RKV All systems are go, Flight. We transmitted TX.

FLIGHT Roger.

RKV Gemini 7, RKV. All systems are go. We are standing by.

S/C .....

RKV Roger, we have that, Flight.

FLIGHT Roger, RKV. RKV would you send us another main summary, please.

RKV Roger. We're getting just a little.....

FLIGHT Rog.

RKV RKV has LOS.

END OF TAPE

*Not aired air/ground on CSQ pass.

HOUSTON CSQ Cap Com, AFD.

CSQ AFD, CSQ. Go ahead.

HOUSTON Okay. You got our mission instructions. We have no special instructions for you.

CSQ Roger.

HOUSTON Okay. Any questions?

CSQ Negative questions.

HOUSTON Okay. We're standing by for your pass.

CSQ Houston, this is CSQ.

HOUSTON Go ahead.

CSQ One question. Do you want an A and B also?

HOUSTON Stand by, one. Yea. Go ahead and send us one this pass. A and the B.

CSQ Roger. Will do. CSQ had TM solid.

HOUSTON Roger, CSQ.

CSQ All systems are go, Flight.

HOUSTON Roger that.

CSQ Gemini 7, CSQ. We have you go on the ground. We have nothing for you this pass. You need not acknowledge.

S/C .....(Garble)....., CSQ. Thank you.

CSQ Roger.

HOUSTON How are things on the CSQ there today, by the way?

CSQ They're pretty good, Flight. It's a little bit; not much.

HOUSTON Did you get any sleep last night?

CSQ Not a great deal.

JSTON That's too bad.

CSQ Say again, Flight.

*Not aired air/ground on CSQ pass.

HOUSTON I say that's too bad. Have you done anything about taking sleeping pills, or anything like that?

CSQ Negative.

HOUSTON You've got a doctor there.

CSQ All systems are go, Flight.

HOUSTON Roge.

CSQ Space powered up on primary run sensors and horizon scan mode.

HOUSTON Roger.

CSQ CSQ has TM LOS. All systems go.

HOUSTON Roger, CSQ. We copy. Hawaii Cap Com, AFD.

HAW AFD, this is Hawaii Cap Com.

HOUSTON Okay. I just want to remind you you have a crew status report on the pilot this pass.

HAW Roger.

HOUSTON Okay. And, we'd like you to leave the TM on for Guaymas; and you can set your TX for Guaymas LOS, that's 211802, Zulu.

HAW Roger. Understand.

HOUSTON Okay. Any questions?

HAW Negative.

END OF TAPE

This is Gemini Control. We are now at 217 hours and 51 minutes into the mission of Gemini 7. At this time, our spacecraft is passing over the Pacific, and very shortly will be coming up on the west coast of South America and then will begin its 137 rev. We are just putting in the tail end of the 136th revolution at this time. Here in Mission Control we have had a shift change. The White Team of flight controllers has replaced the Red Team. And, the Red Team, very shortly, will be leaving this building for their daily press conference. We have had a voice communication, a very limited voice communication, between the spacecraft and the Guaymas, Mexico Station; and at this time, we will play back the taped conversation.

GYM Guaymas has solid TM.

HOUSTON Roger, Guaymas.

GYM All systems are go.

HOUSTON Roger.

GYM AFD, Guaymas.

HOUSTON Go ahead, Guaymas.

GYM Roger. We show him at a pulse mode with his primary horizon scanners on in search. He was locked on solid horizon scan the last time we saw him around.

HOUSTON Okay. Roger. We copy.

GYM Gemini 7, Guaymas Cap Com. All systems look good on the ground.

S/C Thank you, Guaymas.

GYM Gemini 7, Guaymas Cap Com.

S/C Go ahead, Guaymas.

GYM Roger. We noticed you had your horizon scanners on and you were in a pulse mode. We were wondering if you were having trouble staying locked on.

S/C No, Guaymas. It's a glitch. We were using horizon scan for a while and then we went to pulse; it stayed 0-0-0, and then we went back

to horizon scan.

GYM Roger. Very good.

S/C We lost one lock right at the sunset, the scanner gear...good pitch down range we lost and we had to go to pulse to bring it back.

HOUSTON Roger. Understand. Thank you.

GYM Guaymas has LOS.

HOUSTON Roger, Guaymas.

END OF TAPE

This is Gemini Control. We are now 219 hours and 38 minutes into our mission with spacecraft Gemini 7 passing over the South American Continent reaching for the East Coast and very shortly will be within voice range of the Rose Knot tracking ship. According to our flight plan here we have little activity, we're winding up the day's activity, we will have a fuel-cell purge and a little activity aboard while we're over the Rose Knot, and following that, our spacecraft crew will enter a sleep period which will extend for approximately 10 hours. We are expecting, now shortly, to pick up the voice conversation between the spacecraft and the tracking ship and we intend to bring this live. Let's listen in now and get the pickup.

RKV ..then close the fuel-cell control to the circuit breaker. Then purge separately H_2 and O_2 and then open the fuel-cell control to the circuit breaker.

S/C Right. I understand.

RKV Okay. We're standing by for your purge.

S/C Does (garbled) ... take the (garbled) off all night?

RKV Let me give it a check.

S/C The fix is south 12.

RKV Right.

Did you get our summary, Flight?

FLIGHT Say again.

RKV Did you get our summary?

FLIGHT Affirmative.

RKV Thank you. ..... 1 Charlie.

FLIGHT Doesn't look bad to me.

RKV Okay. It looks all right, Gemini 7.

S/C Roger. ..... fuel-cell about average ...

RKV Uh, roger. I've got quite a bit of information about ..... when you're ready to copy.

S/C Go.

RKV Okay. I've got a ..... update.

S/C Okay, we're ready.

RKV Area 140-3: 223 11 57. Area 141-Bravo: 224 49 06. Area 142-Delta: 235 46 10. Area 143-2: 227 20 08. Area 144-2: 228 55 58. Area 145-1: 230 24 28. 106-1: 231 5 niner 57. Area 147-1: 233 35 28. The attitude of point for various peaks for all areas is 21 plus 40.

S/C Roger.

RKV The weather is good in all areas.

S/C Thank you.

RKV Your next fuel-cell purge after you wake up will be at Carnarvon at rev 144, time will be 230 plus 01.

S/C Fuel time 230 plus 01.

RKV Right.
The purge is going good, Flight.

FLIGHT Roger, RKV.

S/C RKV.

RKV Roger. On your - for your update on your OAMS status, your fuel remaining is 305 pounds, your oxidizer remaining is 109 pounds, your actual percentage remaining is 25 percent, your onboard ..... readings are 21 percent ..... than 1 percent of what we expected.

S/C Roger.

RKV I'd like to give you your bedtime rules for your cryogenic sensors.

S/C Go.

RKV Okay. Your ECS O_2 heater switch should be OFF. Your fuel-cell O_2 heater switch to AUTO. Your fuel-cell H_2 switch to OFF. We'd like your quantity read switch to ECS O_2 position tonight.

S/C Roger. I'm putting that all down.

RKV Okay.
Your fuel-cell ..... to maximum. We'd like you to pump it up to 490 and your VENT ON for tonight will be 445.

S/C 490 and 445.

RKV Right.
I'll give you a little run down on the spacecraft anomalies we've run into.

S/C Rog.

RKV Roger. Your fuel-cell O_2 pressure has been reading about 910 psi for the last 20 hours. We think the transducer is stuck.
I have fuel-cell on control 2 circuit breaker with ..... monitor. We don't have a good explanation right now. It's probably one of the coils didn't break contact when it opened.

S/C Roger.

RKV Over a long time of conducting the coil may have burned out the information resulting in a long-distance short. I think that it might be the water valve on section 2.

S/C Roger.
We feel (garbled) the purge (garbled) to .....

RKV Roger.

S/C Any other anomalies?

RKV On our cross-over valve we don't think we got 209. Our monitor went out on the section. The delta P light went out about 210 and as far as we know it came back on at 211. The theory is (garbled).... O_2 and O_3 or that the alcoholic content will raise the O_2 10 percent we'll get ..... lots of water.

S/C Roger.

FLIGHT Okay, Bill. You can also tell him they'll be having music on HF for the next 3 hours.

RKV We'll give you some music on HF for the next 3 hours.

S/C Okay.

RKV How was your view over South America this last pass?

S/C A little cloudy.

(garbled)

RKV Have LOS less than 1 minute, Flight. You got anything else?

FLIGHT Negative, good pass, Bill.

RKV Roger. Good go.

FLIGHT Roger.

Okay. Let's have LOS Main, RKV.

RKV Roger. Coming up here.

RKV has LOS.

FLIGHT Roger.

That was live voice communication between spacecraft Gemini 7, with Frank Borman doing most of the talking, from the space ship, and our Rose Knot tracking ship, located off the east coast of South America. During the past 1 and $\frac{1}{2}$ hours, while the press conference was being held at Building 6, we had accumulated - we have accumulated several voice tapes, as the spacecraft passed

over Tananarive, the Coastal Sentry tracking ship, and the Hawaiian tracking station, and at this time we will play back those taped voice communications.

CAP COM Gemini 7, Gemini 7, Houston Cap Com. Over.

Gemini 7, Gemini 7, Houston Cap Com. Over.

S/C This is Gemini 7, you're on your .....

CAP COM Roger, Gemini 7, reading you a lot better now. Standing by for your flight plan report.

S/C Roger. D --- ASA 64. 135 exposures. Free-band tape on 35 exposures. 217 - 500, we only used 3 exposures. The IR film was 13 exposures. High-speed black and white - 12. High-contrast black and white - 5. 16-mm $2\frac{1}{2}$ magazines. 8 - $9\frac{1}{2}$. S-8/D-13 scores today - Pilot minus 9. Command Pilot minus 11. Total to date column 5 - Pilot 23, Command Pilot 24. Column 6 - Pilot 3, Command Pilot 5. We accomplished everything in the flight plan today except those things which were cancelled because of the weather and you were notified at the time.

CAP COM Roger, Gemini 7. We got all your flight plan report. Just one question. Can you give us an idea of what you've been able to accomplish throughout the flight in the way of the dim-light photography?

S/C Roger. We've got some pictures of the air-glow, the night air-glow. That's about it.

CAP COM Understand air-glow, the night air-glow is about all you were able to get. Right?

S/C Right. Air-glow .....

CAP COM Okay, Frank. I think we got it all. And we'll see you, probably not for a while, tomorrow or so.

S/C Okay.

CSQ is next on .....

CSQ ..... about next ..... Jim.

Also, Houston would like for the crew, both members, to bring up their water intake just a little.

S/C Rog.

CSQ We have you GO on the ground. All systems operating normally.

S/C Git it .....(garbled) updates not.

CSQ Flight, CSQ. He's still playing with that external EKG now.

FLIGHT Roger.

CSQ He's powering down. All systems GO.

FLIGHT Roger.

CSQ Flight, CSQ. Our computer's back up, the summaries are on their way.

FLIGHT Roger.

HOUSTON CSQ, AFD.

CSQ Go ahead.

FLIGHT Give me a hack at LOS, please.

CSQ Roger. 45 minutes 13 seconds is about my TX time.

FLIGHT Okay..

CSQ LOS.

FLIGHT Roger. Roger, CSQ.

CSQ He was still playing with that EKG at LOS, flight. You might have the next flight take a look at it.

FLIGHT Okay.

Hawaii Cap Com. Houston Flight.

HAW Houston Flight, this Hawaii Cap Com.

FLIGHT Roger, Bill. You can advise the crew they'll be UHF 6 at RKV.

HAW Roger.

FLIGHT Hawaii, we're standing by.

HAW Roger. Hawaii has TM solid.

FLIGHT Roger, Hawaii.

HAW Gemini 7, Hawaii Cap Com.

S/C Seven, Hawaii.

HAW Roger. We show you GO on the ground here. We'd like to have a fuel-cell O_2 pressure reading, please.

S/C We're reading 740 psi and 56 percent.

HAW Roger. Understand 740 - 56 percent. I'd like to also have an OAMS prop quantity readout.

S/C Roger. Reading 21 percent onboard.

HAW That was 31 percent?

S/C Negative. 21 percent.

HAW You're 21 percent.

Would you give me an OAMS source helium pressure?

S/C About 1300.

HAW Roger, understand 1300.

We have nothing else for you at this time. Standing by.

S/C Roger.

HAW We show your sternal lead on the Command Pilot as still being bad.

S/C Roger. ..... operation.

HAW Roger. Would you turn your quantity read switch OFF, please.

S/C Roger .....

HAW Roger, thank you.

HAW Houston Flight, Hawaii Cap Com. Did you copy all his transmission?

FLIGHT Roger. Dell, would you ask the crew if they've noticed any variations in their fuel-cell O_2 pressure reading. You can advise them we think we have a stuck transducer, that the ground TM value has not changed for approximately 20 hours.

HAW The ground what?

FLIGHT The ground reading on TM and fuel-cell O_2 pressure has not changed for 20 hours. We believe we have a stuck transducer. Would you find out if they have noticed any variations in their onboard reading?

HAW Roger. Would you - have you noticed any change in your fuel-cell O_2 pressures in the past time? We have a suspected stuck transducer. Your ground TM has not changed in the past 20 hours.

S/C Our gage hasn't changed either.

HAW Roger, understand.

S/C But the heater is cycling in here because we're getting jumps on the amp meter.

FLIGHT Okay. That's probably the best indication we've got then that it's staying within range.

HAW Roger, flight.

S/C Hawaii.

HAW It's affirmative, 7.

S/C Okay, thanks.

HAW Gemini 7. You also have a UHF 6 coming up over the RKV on this pass.

S/C Roger, Hawaii.

HAW Hawaii has TM LOS.

This is Gemini Control. We have been listening to some taped voice communication between spacecraft Gemini 7 and the tracking stations at Tananarive, Hawaii, and Coastal Sentry, taken on the last revolution. We are now in the 138th revolution with spacecraft Gemini 7. Our crew is in a sleep period, which will last for approximately 10 hours. We are playing for the crew some musical selections which will continue for approximately 2 hours, should they care to listen, and at this time we are 219 hours and 54 minutes into the flight of Gemini 7. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are now 220 hours and 20 minutes into our mission with spacecraft Gemini 7. At this time the spacecraft is passing over India on its 138th revolution around the earth. The crew is in an extended period of sleep. We do not as yet have a readout from ground data that indicates they are asleep. However, we will keep watching the medical data and will pass it along as soon as we get confirmation that the ground data would indicate sleep. We are playing for the crew, prior to their actually going to sleep, some music. Some music musical selections which will continue for the next hour should they care to listen. This is Gemini Control and in our Mission Control Center a lot of our flight controllers are taking advantage of the lull in activities here to eat their evening meal. We are now 220 hours and 20 minutes into the mission.

END OF TAPE

This is Gemini Control. We are now 221 minutes -- 221 hours and 20 minutes into our mission. The spacecraft is now passing over the South Atlantic on its 139th revolution. Here in the Mission Control Center our flight controllers are working on their reports updating the activities that took place today, committing them to paper so that they can brief the Blue Team which is due to come in here in about three to four hours. Aboard our spacecraft, our pilots are in a sleep period, and we do not as yet have an indication from the ground data as to whether they are asleep. This is Gemini Control, 221 hours and 20 minutes into the flight of Spacecraft Gemini 7.

END OF TAPE

This is Gemini Control. We are not at 222 hours and 20 minutes into our mission. Spacecraft Gemini 7 is on the 139th revolution passing over the Pacific Ocean about midway between the Coastal Sentry tracking ship and South America, very close to our Canton tracking station. Our latest information from the ground readouts shows us that the crew is resting quietly and possibly is asleep at this time. This is Gemini Control, 222 hours and 21 minutes into the flight.

END OF TAPE

This is Gemini Control. We are now 223 hours and 20 minutes into our mission, with the spacecraft Gemini 7 on its 140th revolution around the earth. At the present time it is passing over Africa, just about reaching the east coast of Africa and will shortly come up over the continent of India Here in the Control Center, our flight controller -- most of them are having their evening meal. This is Gemini Control, 223 hours and 20 minutes into the mission. Our last report from the Rose Knot tracking ship, as the spacecraft passed over, reports the crew is asleep. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are now 224 hours and 20 minutes into the flight of spacecraft Gemini 7. Gemini 7 is just now reaching the west coast of South America on its 141st revolution around the earth. It is just beginning the 141st. Here in the Mission Control Center, our White Team of flight controllers are entering their last hour of duty and within the hour the Blue Team will take over to carry this flight on through the night. This is Gemini Control, 224 hours and 20 minutes into the flight.

END OF TAPE

This is Gemini Control. We are now at 225 hours and 16 minutes into the flight of spacecraft Gemini 7. At the present time, spacecraft Gemini 7 is passing over the Pacific in the vicinity above the Coastal Sentry tracking ship. It is on its 141st revolution around the earth. In a very few seconds now, approximately 30 seconds, our flight crew will have rolled up 225 hours and 17 minutes in flight, in approximately 15 more seconds and thus Command Pilot Frank Borman and Pilot Jim Lovell will each have exceeded the record of astronaut Gordon Cooper, who until now had spent more time in space flight than any other man. This is based upon his total of 225 hours and 16 minutes accumulated in 2 orbital space flights. One in the Mercury Program and then his flight with Pete Conrad in the Gemini Program. Now we have reached the figure of 225 hours and 17 minutes and now 21 seconds and thus Borman and Lovell are now the world's most experienced space pilots, from the standpoint of time spent in flight. According to the latest ground readouts of flight data, the crew is still asleep. We are now on the 141st revolution and 225 hours 17 minutes into this mission. This is Gemini Control.

END OF TAPE

This is Gemini Control. Gemini 7 is now in its two-hundred and twenty-seventh hour and 20 minutes of flight, beginning the dark period over the South Pacific, ending its one hundred and forty-second revolution. It should reach the Canary Islands area in about a half an hour. The last report we had over the Coastal Sentry tracking ship was that all systems are normal, and the crew appears to be asleep and in good condition. We have this information from Cape Kennedy on the activities down there regarding the Gemini 6 launch and the Gemini 6 launch vehicle preparations. They estimate completion of the reinstallation of a gas generator by 2:15 a.m. EST. The cryogenic oxygen tanks aboard Spacecraft 6 were topped off -- completed by 7:45 p.m. EST Monday, and some time between 6:00 and 8:00 EST in the morning today, an abbreviated mid-count will begin basically for the launch vehicle, but to check mostly the interface between the launch vehicle and the Gemini 6 spacecraft. A flight safety review is scheduled at 9:00 a.m. EST probably including Astronauts Schirra and Stafford, and a mission review is scheduled at about 11:00 a.m. EST also with the crew probably participating. About 6:00 or 7:00 p.m. EST Tuesday night, they begin fueling the Gemini 6 launch vehicle, and this procedure should take from three to five hours. Then at 2:10 a.m. Wednesday EST the space-craft countdown should get underway. Two hours later at 4:10 a.m. EST

the launch vehicle countdown should get underway, and we will look forward to a Gemini 6 launch at 8:37:08 EST Wednesday. So at 227 hours and 22 minutes into the flight of Gemini 7, this is Gemini Control.

END OF TAPE

This is Gemini Control. Gemini 7 is passing over Southeast Asia, having just crossed the Bay of Bengal where it went right over the top of a very large tropical depression with winds at -- winds of 60 knots circling inside. Yesterday this storm was much more violent with winds of more than 80 knots. The spacecraft has been in the air now for 228 hours and 20 minutes, and is now about in the middle of its one-hundred and forty-third revolution. This is Gemini Control.

END OF TAPE

This is Gemini Control. Gemini 7 has been in space for 229 hours and 20 minutes, and in approximately 100 hours and 37 minutes will fire its retros for reentry in the Atlantic Ocean. We are on the one-hundred and forty-fourth revolution, and the one-hundred and fifty-third orbit. The orbit is 161½ miles -- nautical miles high circular, and it takes 96½ minutes to complete a revolution around the earth and 90½ minutes to complete an orbit in space. Our flight surgeon has just reported that his data from the Canary Islands -- from Antigua looks very good. The Antigua station said that"Everything looks good, Flight." Dr. Coons, Flight Surgeon's quote, "All our data are good, and the crew is asleep." This is Gemini Control.

END OF TAPE

This is Gemini Control, at 230 hours and 20 minutes into the flight of Gemini 7. The spacecraft has passed the Carnarvon tracking station in Hawaii, where the crew to have been woke up. The crew however, was awake. They got an update of their flight plan, which command pilot, Frank Borman, took from the Cap Com at Carnarvon. The crew is now getting ready to eat breakfast. The pilot is in the exercise period. We have a tape of that conservation between the spacecraft and Carnarvon. And we will play that tape for you now.

CRN Gemini 7, Carnarvon Cap Com. Will you place your cross over to the ON position and leave it on for 30 minutes . 30 minutes.

S/C Roger, Cross over to the ON for 30 minutes.

CRN Roger and we should have a purge on the pass. I'd like to start out with an normal / purge on section 1.

S/C Okay, normal purge on section 1.

Flight Carnarvon Cap Com, Houston Flight. Do you read?

CRN Go ahead Flight.

Flight Okay, we hadn't heard from you and we thought the line was out.

CRN Roger, we've got the purge started. It might have gone down there for a little while.

Flight Your main looks good.

CRN Roger, thank you flight.

CRN Okay, Gemini 7 before we start the purge on section 2 we are going to have to turn that section 2 circuit breaker off. Let me know just as soon as you finish with section 1.

S/C Roger.

CRN Okay would you place your quantity read switch to the fuel cell H_2 position.

S/C Position reading about 490 ft per sec.

CRN Roger. Okay I have a flight plan update when you are prepared to copy.

S/C Go ahead.

CRN Roger. I have a node update. Time 230:41:31 elapsed; rev 144;99.7 degrees west; right Ascension 09 hours 03 minutes 58 seconds. A flight plan fine line update. Change 2320000 to 2321000; HF test 2321000; Sequence number 01; attitude control not required; use UHF for station passes; stop at 2334000; last item 2321749 crew status report command pilot have breakfast. Do you copy?

S/C We have it all.

CRN Okay will you place your quantity read switch in the fuel cell O_2 position.

S/C Purge is complete . . garbled . .

CRN Okay, thank you. I am to remind you that the biomed recorder no. is to go off at 230:10;00 .

S/C Roger.

CRN Okay you can place your quantity read switch to the OFF position. Okay, we will have LOS here shortly. Good morning from Australia. And that completes the items for this pass.

S/C Thank you.

That was a taped communication between Gemini 7 and Carnarvon .tation a few minutes ago and this is Gemini Control.

END OF TAPE

This is Gemini Control. Gemini 7 is on its 145th revolution heading - beginning its track down down across the Indian Ocean toward Australia, where the crew will perform a visual acuity experiment using the world's largest eye chart. This consists of several panels 2000 by 2000 feet square and we call this the S-8/D-13 experiment. Right now we are 231 minutes - 231 hours and 20 minutes into our flight and just a little while ago the spacecraft passed within range of several of our U.S. stations and some lively conversation ensued between our Cap Com, astronaut Charles Bassett and the Gemini 7 crew. We'd like to play that tape for you now.

CAP COM Gemini 7, Houston.

S/C Good morning, Houston, 7 here.

CAP COM The Blue Team wishes you good morning! How's everything this morning?

S/C Pretty good. You're coming in pretty weak though, Charlie.

CAP COM Okay, Jim. Could I have an OAMS prop readout, please?

S/C 41 percent.

CAP COM 21 percent?

S/C 21 percent.

CAP COM Roger. Would you please verify your crossover OFF?

S/C Roger, crossover is OFF.

CAP COM Did you see any rates resulting from ECS O_2?

S/C We'll look outside. Just a minute.

Uh, they're not bad, Charlie.

CAP COM Okay, very good. Listen, EECON thinks that your pressure transducer on fuel cell O_2 is hung up. We'd like you to turn your fuel cell O_2 heater switch to OFF for one or 2 revs to

let the tank pressure decay slightly and then perhaps unstick the transducer.

S/C Roger. Fuel cell O_2 going - heater going OFF at this time.

CAP COM Okay. And you can turn your delayed tape transmitter back - transmitter circuit breaker OFF and this won't be used again since the tape is - since the tape recorder has failed.

S/C You want the tape recorder power circuit breaker back OFF?

CAP COM Yeah, that's to your delayed time transmitter circuit breaker.

S/C Okay. The delayed time is turned OFF.

CAP COM And listen - are you aware that last night you passed Cooper's individual time in orbit? His record was 22 - 225 and a quarter hours or so and you're now standing almost 240 hours.

S/C No, we forgot about that.

CAP COM Almost 231 hours, I guess.

S/C 230 hours 49 minutes and 28 seconds, Charlie.

CAP COM You're exactly right. Did your delta P light go on anytime the crossover was on, Gemini 7?

S/C Negative.

CAP COM Okay. Next stateside pass will probably be a UHF 6 pass.

S/C Very well. How's everything in Houston?

CAP COM Real fine.

S/C Charlie, could you take a message for me?

CAP COM Sure, be happy to.

S/C Would you tell Dr. LaChance, of the Crew Systems Division, that his chicken with gravy should be labeled gravy with chicken.

CAP COM Chicken with gravy instead of - - Okay, I got it.

S/C Charlie, our tumble mode out of this ..... seems to be a left roll and a left yaw.

CAP COM Left roll and left yaw.

S/C And very . . . . . we haven't even looked outside for 10 hours.

CAP COM Okay. Real good.

Would you like to hear some of late last night's news?

S/C Sure would.

CAP COM Well, there's quite a bit of stuff on Viet Nam. The Marines and the Vietnamese troops eased into mopping up stage of operation harvest moon today with an estimate that ground and air strikes have killed about 1000 of their quarry which is a hard-core Viet Cong regiment.

U.S. Officers said the area where up to 3700 Viet Cong had sought to hold their ground against an Allied Task Force of several thousand men is now secure. They're proposing to keep it that way.

Here's something from Notre Dame, the College. There were apparently a group of students who were going to fast for clerical freedom of speech. The College told them to go right ahead. But all of a sudden all of the fasters disappeared.

S/C Great.

CAP COM The psychological warfare experts are mighty happy in that voluntarily, a group of 22 Viet Cong Platoon - a group of 22 in a Viet Cong Platoon surrendered to the 173rd Airborne at Beaudat which is 60 miles northeast of Saigon. A U.S. spokesman said that that was the largest single defection of arms and surgeons in months.

CAP COM Don't have any sports news. Apparently we don't get that on our tape. I'd be happy to give you some if there were. There's been a little turnover in the management of the Oilers.

S/C Of the Oilers or the Astros?

CAP COM Oh, that was the Astros. Had you heard about that?

S/C Yeah, we heard about that yesterday.

CAP COM Okey doke.

S/C They checked with Frank before they made the turnover!

CAP COM Yeah.

S/C How are things going at the Cape, Charlie?

CAP COM Things are going along real well, Frank. They're going to do an abbreviated mid-count this morning and pick up the count tomorrow night at the regular time.

S/C What time is launch scheduled for now?

CAP COM It's 8:37.

S/C Houston or in Cape time?

CAP COM That's Cape time.

S/C Aiming for 4?

CAP COM I beg your pardon?

S/C That for rendezvous at the 4th apogee?

CAP COM That's affirmative.

S/C Can you tell us what our orbit has decayed to now?

CAP COM Stand by, one.

It's right about 161 and a half, Frank. We haven't tracked it this morning to get any good updated information. We'll give you that just as soon as we get a good track on it.

S/C Okay.

CAP COM Say, we have some dim-light photography updates we'd like to give you if it would be of any assistance.

Would you like to take that?

S/C Get it later on. We got all of our - we're eating right now.

CAP COM Yeah, I understand that. We'll give you that with your big flight plan update.

S/C Very good.

We would like it. We want to get the - - - - to be taken care of tonight, Thursday and Friday night if we can.

CAP COM Okay. Real good. We think we'll have a pretty interesting day for you today. We hope so.

S/C What time do you go off duty, Charlie?

CAP COM I go off at 7.

That's 7 local.

Can I do something for you, Frank?

S/C No, I just wondered. It's been a long night for you'll, hasn't it?

CAP COM Yeah. I bet it's been a lot longer for you'll though.

S/C Jim and I are beginning to notice the days seem to be lengthening a little.

CAP COM I'll bet.

Believe me, we can hack it if you can.

S/C (entirely garbled)

Who's the Surgeon on duty with you, Charlie?

CAP COM I beg your pardon?

Oh, it's Nick Coons.

Gemini 7. Nick Coons is Blue Surgeon.

S/C I figured he'd have the night shift. He wouldn't have gone to bed anyway.

CAP COM Yeah, he's laughing!

LOS ANTIGUA

This is Gemini Control. That was a taped transcription, taped conversation between Gemini 7 and the U.S. Stations. Right now we are at 231 hours and 28 minutes into the flight. This is Gemini Control.

END OF TAPE

This is Gemini Control at 232 hours and 20 minutes into the flight. Gemini 7 is now over Southern Mexico on its way to beginning its 146th revolution. It's just now ending its 145th. Meanwhile we have a status report from Cape Kennedy on the Gemini launch vehicle and spacecraft for the 6 mission, scheduled to get off Wednesday morning. The gas generator has been reinstalled on the Gemini 6 launch vehicle at the Cape. It was done last night and they have begun topping off spacecraft cryogenics, or at least they will within the hour. An abbreviated midcount is scheduled to get under way about now at the Cape. Mostly on the launch vehicle although the spacecraft will be powered up to support this operation. A flight safety review should get underway at 9:00 a.m. Eastern Standard Time. And a mission review is scheduled two hours later. The Gemini 6 countdown is to begin at 2:10 a.m. e.s.t. Wednesday with liftoff planned for 8:37 a.m. e.s.t. At 232 hours and 21 minutes after the hour this is Gemini Control.

END OF TAPE

This is Gemini Control. 232 hours and 58 minutes into the flight of Gemini 7. The spacecraft is just beginning another pass across the Indian Ocean heading toward darkness, which they'll meet somewhere over Australia. They have just passed within range of the Kano, Nigeria station and the Canary Island station; and previous to that, they were in contact for a little while with the U. S. stations. We have a tape of some of the conversation between the U. S. stations and the spacecraft; and we'll play that tape for you now.

HOUSTON Gemini 7, Houston.

S/C Go ahead, Houston, this is Gemini 7.

HOUSTON Roger. This won't be a UHF-6 pass as we previously mentioned. Would you verify your TM and real time and Acq-Aid?

S/C Roger.

HOUSTON And place your adapter C-Band on continuous. Place tape playback on reset momentarily, then command. Leave C-Band, real time, and Acq-Aid in continuance until Canaries' LOS. I note you have temperature. Would you start your blood pressure, please. I'm passing you over to Flight Surgeon. Gemini 7, your cuff is full scale. Gemini 7, while that's bleeding down, could the pilot tell me if the M-1 has been going continuously and whether he has any comment on the cuff comfort?

S/C Houston, Seven.

HOUSTON Gemini 7, this is Houston Surgeon. I'll come to you again in a moment. Stand by. Gemini 7, we have a good blood pressure. You can start your exercise now, please.

S/C Mark.

HOUSTON Gemini 7, Houston Surgeon. Would pilot comment on the pneumatic cuff comfort; the thigh cuffs.

S/C Here comes the blood pressure.

HOUSTON Roger. We copy, 7.

S/C The cuffs are okay. He's on an HF test on another frequency. The cuffs are okay.

HOUSTON Roger, Gemini 7. Thank you. Your cuff is full scale. Gemini 7, Houston Surgeon. While that's bleeding down, could you give me a reading on your suit and cabin temperature control valve settings?

S/C Roger. Suit's full flow, both of them; and the..uh..everything's full cold. The cabin, of course, is full hot.

HOUSTON Roger.

S/C We can maintain mighty nice conditions by warming up a little when we go to sleep and then turning them back cold when we wake up.

HOUSTON Roger, Gemini 7. We have a good blood pressure. While you're turning over your food and water log, would you comment on your sleep last night, please.

S/C Jim got about 7 hours and I got about 6 hours of pretty good sleep.

HOUSTON Both pretty good?

S/C Roge.

HOUSTON Roger.

S/C The pilot now has a total of 658 ounces of water. We had this morning Day 10, Meal A; and he did not eat the peanut cubes. I did not eat the beaf sandwiches. He's had Column 5, 24; Column 6, 4. Command pilot's had 780 ounces of water; Column 5, 26; Column 6, 5.

HOUSTON Roger. And, we're standing by for your supper report last night.

S/C We had Day 11, Meal...Stand by one, that's not right. We had a Meal C last night, I think it was Day 10, Meal C.

HOUSTON Roger, Frank. We'll put it down and check to see if it's been recorded before. Would you give us a total gun count, now?

S/C Roger. 3521.

HOUSTON 3-5-2-1. Your lips and nose satisfactorily comfortable?

S/C Say again, please.

HOUSTON Are you having any difficulty with drying of your lips and nose?

S/C We're using this skin cream. We're about of it. We're getting to the stage now where we're starting to itch a little bit.

HOUSTON On the skin generally, or in the scalp only?

S/C ...scalp; and we're just getting a little crooby.

This is Gemini Control; and that was the status report on the command pilot, Frank Borman. I'm sorry...Yes, that's right. A similar report will be given by the pilot, Jim Lovell, when we get to Carnarvon in about 15 minutes. This is Gemini Control.

END OF TAPE

This is Gemini Control at 233 hours and 20 minutes into the flight of Gemini 7. Not long ago we passed the Tananarive tracking station off the east coast of Africa and we taped a conversation between the ground station and the crew and we will play that tape for you now.

Cap Com — Gemini 7, Houston.

S/C — Go ahead Houston, Gemini 7.

Cap Com — Gemini 7, Houston. Place your crossover on and request an onboard readout of 2C.

S/C — 2C is down to 2 amps. Do you read, Houston.

Cap Com — Roger Gemini 7, thank you.

S/C — Roger, you mind asking him about the platform?

Cap Com — That's affirmative, we are considering that now Frank.

S/C — I think that's needless to turn the platform on under these circumstances.

Cap Com — Roger, we'll be back with you on the next Stateside pass. Incidentally, you wondered about your orbits, your present orbit from tracking for the last Stateside pass was 163.1 by 159.7.

S/C — Thank you.

Cap Com — G.e.t. of Gemini 6 lift-off is about 258 07.

S/C — Houston, Gemini 7.

Cap Com — Gemini 7, go.

S/C — That 429 at 237 Or, is that ..... (garbled)

Cap Com — Say again. Say again Gemini 7.

S/C — Sequence 429 D-4/D-7, is that .... (garbled) 2.

Cap Com — That's 02, sequence 02.

S/C — Igot the mode 02, but what about the (garbled) ...

Cap Com — We'll be back with you on the next Stateside pass, Gemini 7. I'm not sure I'm reading you.

S/C Okay.

Cap Com Gemini 7, one more statement, do not use experiment recorder.

S/C Roger, understand. Do not use experiment recorder.

Tananarive Tananarive has LOS.

This is Gemini Control. That was a conversation between Tananarive and the Gemini 7 spacecraft. The spacecraft is now over Australia. Right this minute the Red Team Flight Controllers are coming in to relieve the Blue Team Flight Controllers who have been here all night long and are getting prepared to go over for a press conference. Chris Kraft is discussing the days activities with outgoing Flight Director John Hodge and Elliot See the on coming Cap Com is discussing his duties for the day with the outgoing Cap Com Charlie Bassett. Dr. Berry will relieve Dr. Coons and that will complete the -- almost complete the change of shift which should take place within the half-hour. At 233 hours and 23 minutes into the flight of Gemini 7, this is Gemini Control.

END OF TAPE

This is Gemini Control, the spacecraft on its 146th revolution. It is now off the East coast of Australia in its 233rd hour and 26th minute of flight. They had a conversation with the Carnarvon station in Australia. We have a tape of that conversation and we'll play it for you now.

CRO Gemini 7, Carnarvon Cap Cap Com. Turn the BCS circuit breaker on.

S/C Roger, Carnarvon.

CRO Roger, thank you. Okay, and you can terminate that HFT test.

S/C For good?

CRO Negative, just for this pass.

S/C Roger.

CRO Gemini 7, we're ready for your blood pressure.

S/C Carnarvon, ...(garble) but we thought that should be rad 3, instead of rad 2.

CRO Say again, Gemini 7.

S/C D-4/D-7 sequence 429, we understand it's mode 2, we want to know what the rad should be on it.

CRO Rog.

HOU FLIGHT They want to know what the rad should be on this experiment.

CRO Stand by.

HOU FLIGHT Stand by, we'll give it to you.

CRO Gemini 7, we have your pressure, we're ready for your exercise.

S/C Do you have the temperature also Carnarvon?

CRO That's affirmative.

S/C Thank you.

CRO Mark.

HOU FLIGHT Can we have another cross one main please.

S/C Blood pressure coming up

CRO Roger. It should be on the line flight.

HOU FLIGHT Roger.

S/C ...garble...

HOU FLIGHT We had a good blood pressure thank you.

CRO SURGEON Surgeon out.

CRO Okay, Gemini 7, Carnarvon Cap Com, we're standing by for your going over readings.

S/C Roger, here they are -- main batteries 1, 2, and 3, read 22.8 volts. Number 4 is 22.5 volts; the fuel cell readouts 1A - 3.5 amps; 1B - 4.0; 1C - 3.0; 2A - 3.0; 2B, - 3.0; 2C - 2.0. Main buss voltage 26.5. RCSA 3,000; 80 degrees; RCSB 2900. 75 degrees. Left hand secondary 02 5400; right hand secondary 02 5300.

HOU FLIGHT Can we have another cross main please Carnarvon?

CRO Roger flight. Okay, Gemini 7.

HOU FLIGHT Give him a go.

CRO Gemini 7, we have you go here on the ground and I'm going to update your TR clock at this time.

S/C Roger.

CRO Roger, we have you updated and go on the ground.

S/C Roger, thank you.

HOU FLIGHT Tell him we're two days ahead on that thing, will you?

CRO Okay, that time is for two days ahead, you have a go for 178-1.

S/C Thank you.

HOU FLIGHT That's negative, he has a TR for 178-1.

CRO Okay, what does he have a go for?

HOU FLIGHT Stand by. 163-1 Carnarvon, Houston.

CRO Go ahead flight.

HOU FLIGHT 163-1.

CRO Rog. Gemini 7, that go is for area 163-1. However, the TR time is for 178-1.

S/C Roger, we thought you were getting pretty liberal.

CRO Roger.

HOU FLIGHT Carnarvon, Houston flight.

CRO Go ahead flight.

HOU FLIGHT That rad should be 3.

CRO That rad should be 3?

HOU FLIGHT Rog.

CRO Gemini 7, Carnarvon, the rad on that experiment should be 3. Do you copy?

S/C Roger, we copy, thank you.

CRO Roger. We have nothing much farther for you. Would you turn your DCS circuit breaker to the open position five minutes from now?

S/C Roger.

CRO Roger, and you can start that HFT again.

S/C Roger, we will have the cross over switch on until we get back over the states and talk to them about the fuel cells, is that correct?

CRO That's affirmative.

S/C Thank you.

END OF TAPE

This is Gemini Control. We are 233 hours and 50 minutes into the flight of Gemini 7. We have just made contact between Gemini 7 and Guaymas Station. Let's tune in on that conversation, live, now. The Guaymas Station did report to the Gemini spacecraft, and the crew did report back; we're just waiting for some conversation now.

GYM Roger.

HOUSTON Okay. We haven't seen it yet. We're going to run that down.

GYM Okay. Sing out if you don't get it.

HOUSTON Texas, go remote.

TEXAS Texas is remote.

HOUSTON Guaymas, we're primed for voice now.

GYM Roge.

HOUSTON Gemini 7, Houston.

S/C Go ahead, Houston.

HOUSTON Good morning.

S/C And, good morning to you. Hi, Houston.

HOUSTON We are ready to place the fuel cell 02 heater switch back on; but first we would like a read out from you on that pressure.

S/C Roger. The pressure reads 740.

HOUSTON Roger. For your information, we read a steady indication throughout the period you had it off; so we're convinced that it is an inoperative transducer.

S/C Roger. We've been plotting it steady also.

HOUSTON Roger. Okay, we're ready for you to put the fuel cell 02 heater back in the auto position.

S/C Roge. I did; and we got an increase in amps, so I guess that the heater's working some.

HOUSTON Roger. In regards to OAMS fuel usage, we want you to realize that

we're still allowing this 2 pounds per day that we had originally planned on, for you to use to control attitude as you find it necessary; but whatever you can conserve is just that much more that we can use for the experiments.

S/C Roger.

HOUSTON Surgeon advises that you have...Stand by. Surgeon advises that you have a sternal lead that's marginal or coming loose from Frank; and we'd like to make a check to find which one it is. Would you hold the top one on for a minute, please? Are you holding the top one on, Frank?

S/C Roger.

HOUSTON Okay. Now hold the lower one on. Release the top one.

S/C Holding the lower one on.

HOUSTON Roger. Okay, it's apparently the lower one that's..that has the poor contact, Frank; and we'd like you to replace that or put it on again as you did with Jim's at the first opportunity you have.

S/C Roger. How's it reading now?

HOUSTON It's a poor reading.

S/C Thank you.

HOUSTON It got better for a second there; and then it went bad again.

S/C Roger.

HOUSTON We have a procedure that has been made for taking the squib batteries off the line during a purge. I'd like to read off that procedure to you and have you look it over and be ready; and we'd like to try it on the next purge, specifically to observe the change in a main bus current during that period; to see just how much it is.

The thinking here is that if we can do this, we will be conserving the squib battery power. And, we're also considering turning the squib batteries off completely; but we're not ready to do that yet. So, let me read you this procedure, and you'll have it on hand for the next time we do a purge.

S/C Go ahead.

HOUSTON Have you got a....Are you ready to copy it. It's fairly lengthy.

S/C Roger.

HOUSTON Place squib battery switch #1 off. Squib battery switch #2 off. Step #2: Place bus tie switch #1 on. Bus tie switch #2 on. Step #3: Place squib battery switch #3 off. Place crossover switch on. Step #5: Normal purge Section One. Do you copy so far?

S/C Roger.

HOUSTON Step #6: Fuel cell control circuit breaker #2 on. Monitor change in main bus current. Step #7: Normal purge Section Two. Step #8: Fuel cell control #2 circuit breaker off. Monitor change in main bus current. Step #9: Crossover switch off. Step #10: Squib battery switch #3 on. Step #11: Bus tie switch #1 off. Bus tie switch #2 off. Step #12: Squib battery switch #1 on. Squib battery switch #2 on. Do you copy?

S/C Roger. We have it.

HOUSTON Roger.

S/C Were you concerned about the squib bus voltage, Elliot?

HOUSTON It's just a procedure to try to conserve some of the power in the squib batteries. They tell me that this should conserve 1/9 of the squib bus power from now until the end of the mission.

S/C Okay. How about this powering up the platform? Are you satisfied with the fuel cells the way they are?

HOUSTON We're still working on that. We're looking into that question, Frank.

S/C Thank you.

HOUSTON We're apparently getting some interference from HF on out TM signals during your HF tests. Have you been copying 2C current?

S/C Roger. 2C current is now...Just a minute...Stand by. 2 amps.

HOUSTON Roger. Are you teeing the HF at the present time?

S/C ...(Garble)...

HOUSTON Drop it off for a minute; and let us get a TM reading here.

S/C We're not doing anything. We haven't had the HF on since four zero.

HOUSTON Roger.

Gemini Control here; and a fairly steady stream of conversation from our very chatty command pilot this morning and Elliot See down here on the ground seems to have come to an end out in the Bermuda area. The Flight Dynamics Officer, this morning, is advised that the orbit is showing a little elipticity, that is it is now quite as circular as it was yesterday. He hasn't quoted any numbers yet, but we get the impression that it's probably averaging 161.5 or slightly under that. But, it is showing a little bit of apogee and a little perigee. For about the last several days, we haven't been able to detect an apogee and a perigee; it has been so circular. At...The crew is to perform Apollo landmarks this time over Central Africa on this revolution. They will do a fuel cell purge at Carnarvon. And, an S8/D-13, the big eye test, is scheduled over Texas and Larado. At 234 hours, 5 minutes into the flight, this is Gemini Control, Houston.

END OF TAPE

This is Gemini Control Houston, 234 hours, 48 minutes into the flight. About half an hour ago over the Canaries we had some conversation. It went like this.

CYI Gemini 7, Canary.

S/C Go ahead, Canary.

CYI Roger. Have some information. We'd like you to keep that crossover switch on till after the purge.

S/C Roger.

CYI That'll be over Carnarvon. And you can put your quantity read switch to off position now.

S/C Thank you. It looks like you have a pretty clear day there today.

CYI Take a picture.

S/C Smile.

CYI Did you get it?

S/C Roger. We're very appreciative.

CYI Thank you.

FLIGHT Flight, Canary.

CYI Go ahead.

FLIGHT Roger. We're getting a reading on 2C of 1.76.

CYI Rog.

FLIGHT Canary's would you get him to give us an onboard fuel cell O_2 pressure?

CYI Roger. 7, Canary. Would you give us an onboard reading of fuel cell O_2 pressure, please.

S/C Roger. ....

MCC This is Houston again. Our latest onboard consumable readings are as follows: Breathing oxygen 64.3 percent remaining, fuel cell oxygen 52.9 percent remaining, fuel cell hydrogen 59.6 percent remaining. Our onboard maneuvering fuel supply remains at 25 percent, that's about 95 pounds. The weather bureau this morning continues to predict acceptable weather for the flight of 7, and the liftoff of 6 over the next 48 hours. In the primary Western Atlantic landing area, skies partly cloudy, widely scattered showers, winds variable up to 15 knots, the sea is running 3-4 feet. In the Eastern Atlantic, zone 2, skies partly cloudy, winds easterly 10-15 knots, sea 3-5 feet. In the Western Pacific, skies cloudy with scattered showers as a frontal system moves into the area, winds running 15-20 knots, sea 4-6 feet. And in the Mid-Pacific area, zone 4, skies are expected to be partly cloudy with scattered showers, southeasterly winds 15-20 knots, and sea 5-6 feet. This is Gemini Control Houston.

END OF TAPE

Gemini Control here. 234 hours, 59 minutes into the flight. Over Carnarvon a few minutes ago, Jim Lovell and Frank Borman put their electrical engineering experience to work. They performed a fuel cell purge in a particular configuration of switches so that the squib bus line was off and they were watching very closely the main bus for any deviations in voltage. They saw none. The conversation went like this.

S/C Roger, Carnarvon.

CRO Roger. We have it. Turn your adapter C-Band to continuous.

S/C Roger.

CRO Okay. We want to get a fuel cell purge this time. We have a procedure which we would like for you to follow. I will read it out to you.

HOUSTON He has it on board.

CRO You don't want to read it out to him, Flight.

HOUSTON He's got it on board. Why don't you tell him to give you a pause when he gets to this main bus current and to read it out to you as he does it.

CRO Roger. Okay. On the purge, when we get to Step 7, monitor of main bus current, we would like to have a pause there, please. And, also on Step 10, monitor change of main bus current again. Okay. You can start your purge any time, 7.

S/C Roger. Go ahead through this special purge procedure?

CRO That's affirm. Squib 1 and squib 2 is off, Flight.

HOUSTON Roge.

CRO Bus tie 1 is on. 2's on. We have C-Band track. H2 purge is on, Flight. 02 purge is on.

S/C ..(Garble)..on the fuel cell control #2, Carnarvon.

CRO Roger.

S/C No noticeable change in the main amps.

CRO Roger. We copy.

S/C Normal purge on fuel cell #2.

CRO Roger. Purging H2 on fuel...on section 2. We didn't see any increase on the ground, Flight.

HOUSTON Roge.

CRO Flight, Carnarvon.

HOUSTON Go ahead.

CRO Alright, the 1218 shows that main bus one did change. Prior to the purge it was reading 9.29. After the purge 10.1.

HOUSTON After the purge?

CRO It read 10.1 after the circuit breaker.

HOUSTON Main bus one. How about main bus two?

CRO Main bus two, no change. 7.49, before and after.

S/C Carnarvon, fuel cell control circuit breaker #2 going off.

CRO Roge.

S/C And crossover switch going off. Crossover switch going off.

CRO Roge.

S/C Squib battery switch #3 coming on.

CRO Roger.

S/C We notice no change in main bus..amps..

CRO Roger. We copy.

S/C Bus batteries 1 and 2 are off; and squib batteries 1 and 2 are on.

CRO Roger. Position your quantity gauge switch to ECS 02, please. Okay, we're getting ready for our post LOS here. If I fail to get to you, I'll try LOS. Go back to the command position on you TM switch in the adapter C-Band. Go to the fuel cell 02, please.

Okay. Fuel cell H2, please. Can I have an onboard read out of your fuel cell 02 pressure please?

S/C 750, Carnarvon.

CRO Roger. Go to TM switch to real time and Acq-Aid. Adapter C-Band to continuous. We've had LOS, Flight.

END OF TAPE

Gemini Control, Houston here. Over Canton Island we had a brief message for the 7 crew, to the affect that clouds are obscuring the Laredo eye chart site, and to forget about that experiment on this upcoming pass. That's the only conversation we've had since we left Carnarvon. In the upcoming rev, we're going to turn the bio-med tape recorder #1 to continuous position over Kano. A little later, we're going to power up the platform, which has been down now for several days, the guidance platform in Gemini 7. And, still later on in the pass, near Hawaii next time around, they're going to do some dim light photography with some special film the crews have on board. At 235 hours, 20 minutes into the flight.. Now I am advised we do have some tape over Hawaii which has come in since we started this report. Let's play the Hawaii tape now.

HAW You're saying it's open.

S/C Roger.

HAW Okay. Would you close your DCS circuit breaker?

S/C Roger.

HAW Thank you. What position is your adapter C-Band in?

S/C Command.

HAW Okay. TM solid, Hawaii.

HOUSTON Roger, Hawaii.

S/C We've been doing it manually over the other stations, Hawaii.

HAW Okay. Okay. How are you doing this morning?

S/C Pretty good. How are you?

HAW Oh, I'm not bad. A little bit wet. I show you go down here on the ground.

S/C Thank you.

HAW Flight, Hawaii.

HOUSTON This is AFD, go ahead, Hawaii.

HAW Okay. You want that C-Band continuous; or do you want to leave it alone until he gets to Guaymas.

HOUSTON Leave it alone until he gets to Guaymas and give us a contingency B, please.

HAW Okay. And you want me to turn off the TM after he leaves me?

HOUSTON Okay. You can have him close the DCS circuit breaker now. We're going to go to the command configuration.

HAW Okay. I've already closed it. Do you want me to leave telemetry on to Guaymas?

HOUSTON That's affirmative.

HAW Okay. We're in good shape. We're all set up. Okay, 7. We've got nothing for you. We'll be standing by if you need us.

S/C Thank you.

HOUSTON Go ahead, thank you very much.

HAW TM LOS at Hawaii.

END OF TAPE

Gemini Control here. The spacecraft is swinging over Houston right now and Elliot See has just called 7. Let's listen.

HOUSTON ...leave it on until we get to the power up. You should, of course, turn it off if you get a Delta P-1 light on at any time.

S/C Roger. You want us to go ahead and power the platform up?

HOUSTON Negative. Not now. That doesn't come until 236:10, I believe it is. Is that right?

S/C That's right.

HOUSTON Yea. Got a TX coming up.

S/C We received it.

HOUSTON Roger.

S/C Clobbered over the States today, Elliot.

HOUSTON Roger. Looks like White Sands is going to be okay, rather Holloman for your pass on the next rev. We had a good weather report just a minute ago.

S/C Yea. We just saw White Sands; and Holloman had some clouds over it, but it wasn't too bad.

HOUSTON We're interested if you've had the Delta P light go out at any time with the operations we've performed.

S/C Negative.

HOUSTON Roger. Surgeon would like to talk to you for a minute here. We need an evaluation of your air flow conditions. Frank, we've been evaluating this suit situation, and particularly the suit off situation; we'd like to get some evaluation as to what you've done about air flow. Where you've had your hoses, and if you had any time with no air flow at all on you. And, we need some sort of an actual evaluation by hours and time that you've had it in these various

positions and just your own subjective feeling about what the comfort level was. We don't need to have all this passed down to us; but we need to have you work out some sort of a plan for doing it there.

S/C We have tried several different positions. We settled on one with the suit outlet hose down by our left knee, the suit inlet hose up over my right shoulder and Jim's left shoulder, and it's very, very comfortable.

HOUSTON Have you had any time with no air flow across you at all?

S/C We don't have any air flow directly across us in this position.

HOUSTON Okay.

S/C All this bugaboo about no convection is a bunch of baloney. There's no problem at all.

HOUSTON Well, that's one of the things that they were trying to pin down, I think. So, they're going to be real interested in your results and comments about that. How did you decide on this position, Frank? Is this a matter of temperature comfort?

S/C Just overall comfort. We tried several positions and settled on this one. In reality, Elliot, there's only two places we can put the out flow hose; and that's here on the side by the center box or along side our knee. We've tried both. This position is the.. just as comfortable as the other one and it's out of the way.

HOUSTON Roger. Do you have it taped down there or tied down to Delco.

S/C Right.

HOUSTON Frank, you haven't tried to replace that lead yet, have you?

S/C I did put it down with tape, Elliot, but I didn't replace the lead. Is it still bad?

HOUSTON Yea. It's still very bad, Frank. It's worse now than it was across...It's totally unreadable, and so I think you're going to have to do the whole bit with it.

S/C Right.

HOUSTON We are planning to go ahead with the platform power up 7 on the time scheduled. We feel that it's going to be okay.

S/C Okay.

HOUSTON Would you place your C-Band adapter switch to command.

S/C It is in command.

HOUSTON Roger.

S/C We have our DCS circuit breaker closed now, also.

HOUSTON That's fine

S/C Okay.

HOUSTON The tests on the Pad have been completed, so you can leave it there.

S/C Okay.

TEXAS Texas local.

HOUSTON I guess word got to you that we do not want to try the D-4 and the MSC 4 at the same time. We've decided against that. We'll be doing the D-4 on the next pass.

S/C Roger. D-4 next pass.

ANTIGUA Acquisition Antigua.

S/C Hello, Houston. This is 7.

HOUSTON Go ahead.

S/C Suggest that for Apollo landmarks, not to try anything below 15 degrees north latitude in Africa. Continuing cloudy to over, either clouds, or smoke from fires. We're not very well successful below 15 degrees north latitude.

HOUSTON Roger. Copy, 7.

S/C That includes our last Apollo attempt, sequence 97.

HOUSTON Roger. Understand. It was too smoky or cloudy there?

S/C Too cloudy in this particular spot.

HOUSTON Roger. You ready for the days news?

S/C Roger.

HOUSTON The Gemini news is all about the dust cover left in the gas generator line, oxidizer line. That's been fixed by the way, and everything's looking real good for the launch tomorrow morning. Talked to Wally and Tom this morning. They're all ready to go. Randy Lovelace, Dr. Lovelace, and his wife are missing in a small private plane flight from Aspen to Albuquerque. We'll keep you posted on that one. Darrel Royal has turned down Oklahoma's coaching offer. He has 8 years to run on his present Texas contract. Apparently, they're now trying to get Georgia's coach, that's Dooley. And, the Carrier Independence is back in Norfolk after 7 months off Viet Nam.

S/C I have a lot of friends on the Independence.

HOUSTON Roger. Gemini 7, Houston.

S/C Go ahead.

HOUSTON Did you place the crossover switch on, Jim?

S/C That's affirmative. It's been on since you told us to.

HOUSTON Roger. Would you check the fuel cell O2 and H2 regulator and circuit breaker.

S/C They are both on, regulator and circuit breaker.

HOUSTON Roger. We were wondering if we're actually getting the crossover open, because we aren't seeing the change in the cell that we did yesterday.

S/C We've noticed that too.

HOUSTON Roger.

Gemini Control here. That apparently wraps up the conversation with the spacecraft swinging over the hill from Bermuda. Borman and Lovell sound unusually sharp this morning. Well rested. And plodding along on the 148th rev. of their flight, the time the retro clock now reads 94 hours, 15 minutes. Elapsed time clock 235 hours, 42 minutes. Gemini Control, Houston.

END OF TAPE

Gemini Control here, 236 hours, 33 minutes into the flight. Over Carnarvon a few minutes ago, the conversation went like this.

CRO — Gemini 7, Carnarvon. We have your TM solid. You're looking good here on the ground. I see you've started your platform up.

S/C — Roger. Carnarvon, we'd like to confirm some supporting angles with you.

CRO — Go ahead.

S/C — For the D-4/D-7 at 2381840, we copy pitch 63 down, yaw 90 left.

CRO — That's affirm. We concur.

S/C — Thank you. For the D-4/D-7 going up at 237 04 00, we copy pitch 250 and yaw 36 left.

CRO — Rog. Good enough.

S/C — Thank you. Will you ask Houston if they want the computer powered up with this pass so they can look at it?

CRO — Roger. Stand by.

FLIGHT — Affirmative.

CRO — You do want the computer?

FLIGHT — Rog.

CRO — Gemini 7, Carnarvon. That is affirmative. Power up your computer.

S/C OK, we'll power it up right now.

CRO Computer is powered up, Flight. He's in prelaunch.

FLIGHT Roger, Carnarvon. Do they have the computer on now?

CRO That's affirmative, Flight.

FLIGHT Give us the computer summary now and at LOS.

CRO Roger. Coming your way flight.

FLIGHT Rog.

CRO ...Gemini 7, do you still read?

S/C Rog. Affirm. Go ahead. Will you ask the Surgeon how the sternal lead is now on the command pilot?

CRO Roger. Stand by.

Roger. They say the sternal lead is good.

S/C Thank you.

CRO Flight, Carnarvon. I have main bus one reading 21.7, main bus two is 17.0. That's with the computer on.

FLIGHT Understand. Send us the LOS mains.

CRO Roger. Will do. Did you get our 930, Flight?

FLIGHT Yeah, they'd like number two now, whatever that means. Like the second one now. Have them both.

CRO Roger. TM LOS, Flight.

FLIGHT Roger.

CRO Everything looked real good. All the way out he was holding a constant attitude.

FLIGHT Roger.

END OF TAPE

Gemini Control Houston here. Elliot See has just contacted 7 now approaching the West Coast of Mexico and the Pilots are all set to track a sled run out at Holloman Air Force Base near White Sands. The sled track is 35 thousand feet long, the sled generates something over 100 thousand pounds of thrust and they will turn on their radiometric sensors to try to get the IR signature of this sled run just as Gordon Cooper and Pete Conrad did. See has advised the Pilots that the weather is clear over Holloman and let's tune in and listen to the progress of this test as it happens.

S/C We ommitted the dim light photography though Elliot, there was not enough time.

Cap Com Roger.

Houston here where the last 20 minutes the Flight Director Chris Kraft has been conferring with the 6 crew down at the Cape in their quarters regarding the last minute details on tomorrow mornings launch of 6. Wally Schirra, Tom Stafford, Merritt Preston, Mission Director Bill Schneider and others who are conferenced with us here. And everybody says they are happy with the conditions, we will try tomorrow morning. Let's go back to 7 now as it -- over Baja California.

S/C Our real time transmitter is on.

Cap Com Roger.

Flight Guaymas, we would like another main from you, please.

Guaymas Roger.

Houston here. Our Astronauts Deke Slayton and Ed White have joined Elliot See at the Cap Com console for this -- to watch the sled run which will begin one minute from now.

In this particular test, the sled covers that 35 thousand feet in something like 20 seconds. 10 seconds to launch. Elliot will probably count him down. It should be launched.

Cap Com Burnout. Water breaking now, 7.

S/C Roger, we ... (garbled) ...

Cap Com Say again.

S/C We have it.

Cap Com Roger. Did you have it all the way on that, 7?

S/C Rog, we did. We can't see much. We saw a little smoke but that's about it.

Cap Com Roger.

S/C We had a beautiful view though.

Cap Com Roger.

S/C We went right on the track and saw the white smoke, so we should have a good one.

Cap Com Roger, very good. Understand you could not actually see the ignition or the rocket firing that?

S/C That's correct.

Cap Com Roger. It will be a good test of the equipment then.

S/C Rog.

Cap Com Did you say you saw the water breaking, you think that was the smoke you reported.

S/C Negative, we saw the ignition smoke from the rocket before you ever called breaking.

Cap Com Roger, did you see the water breaking also?

S/C Negative.

Cap Com Roger.

S/C Couldn't tell the difference anyway.

Cap Com 7, let me know when you are ready to copy the flight plan update.

S/C Ready now.

Cap Com Okay, you have a TX coming up, and we are ready to update your computer for a 163-1 load when you are ready.

S/C All set.

Cap Com Okay, did you get the TX?

S/C Roger.

Cap Com Okay, stand by for the update on your computer.

S/C Got the update on the computer.

Cap Com Okay. We'll start on the flight plan update now 7. Node time 236 42 32, rev 148, 167.9 degrees east, right Ascension 8 56 37. Transponder test, 238 38 00, sequence 01, this will be at the Cape, off at 238 51 00. Time 238 52 00, cabin temperature survey. Dim light photos, 239 18 00, sequence 01, Post-sunset, Command Pilot, code 14B, Pilot code 24XY. Do you copy so far?

S/C Roger.

Cap Com Dim light photos 239 45 00, sequence 01, pre-sunrise, Pilot code 24XY, Command Pilot to start at 239 47 00, code 14B, that is, Baker.

Antigua Acquisition, Antigua.

S/C Roger.

Cap Com 7, your computer load is in and verified.

S/C Roger. Can we turn the computer down now.

Cap Com Yes, you can turn it back off, standby a minute 7. Okay, we would like to leave it on a few more minutes, so I'll call you.

Cap Com — Next item, time 240 00 00, crew status report on the Command Pilot at Hawaii. Time 240 15 00, crew status report on the Pilot at Texas. Dim light photos, 240 53 00, sequence 02, cloud with no moon. Dim light photos, 241 06 00, sequence 02, cloud with quarter moon. 241 36 00, flight plan report at Hawaii, time 242 09 00, PLA update at RKV. Time 242 30 00 exercise, housekeeping and eat periods. Time - you copy so far 7?

S/C — Roger.

Cap Com — Time 243 10 00, bio-med recorder number 2 continuous. Time 243 46 00, purge fuel cells at RKV. Time 255 06 00, end sleep period and begin exercise and eat periods. Same time on bio-med recorder number 2 off and purge fuel cells at Canaries. Do you copy.

S/C — Roger.

Cap Com — 7, you can turn the computer off at this time.

S/C — Roger, it's off.

Cap Com — Would you place your quantity read switch to fuel cell O_2?

S/C — It's there, Elliot.

Cap Com — Roger.

S/C — Houston, do you want us to use the procedure of turning off the squib batteries for every purge now?

Cap Com — Negative. We're still looking into this question of this purging 7 and we will let you know if we have any change.

S/C — All right. Normal purges for now on.

Cap Com — That's correct. Of course, we still have to use our fuel cell control 2 circuit breaker with each purge but other than that it is normal.

S/C Elliot, you want the crossover switch left on?

Cap Com Yes, we would still like to leave it on for a while. We are trying to see if 2C will come up a little more.

S/C Okay.

Cap Com You haven't had any change in the delta P lights I presume.

S/C No. I'm going to write a book when I get back called 14 days with the delta P light.

Cap Com Could be a lot of lessons in that book too.

S/C Houston, this is 7.

Cap Com Go ahead. Did you call 7.

S/C Roger, I'm kindof glad that you didn't give me a dim light sequence with a full moon.

Cap Com Why, does that keep you awake.

S/C The sequence for the dim-light of taking a picture of the day -- of the sky in the daytime, we didn't have time to do it on this last pass.

Cap Com You say you want a new one?

S/C Roger, we need a new time for that.

Cap Com Roger. Gemini 7, you can place your quantity read switch back to the off position.

S/C Roger. Houston, this is 7.

Cap Com Go ahead.

S/C We have 7 minutes and 10 seconds left on the onboard summary recorder.

Cap Com 7 minutes 10 seconds, is that correct.

S/C Roger, we did not use it on 430, but we did use it on 427.

Cap Com Roger.

This is Gemini Control. That probably wraps up the conversation for that Stateside pass in which a sled run was tracked at Holloman Air Force Base. The crew should be having lunch now, just starting lunch. They will probably be fairly quiet for the -- for most of this pass. Over Hawaii next time they will do a fuel cell purge and power down their platform , and over the States this next time at California they will do another transponder test. At 237 hours 20 minutes into the flight, this is Gemini Control Houston.

END OF TAPE

Gemini Contro, Houston here, at 237 hours, 51 minutes into the flight. Over Tananarive, Elliot See called the 7 spacecraft a few minutes ago. Here's that conversation.

HOUSTON Gemini 7, Houston. How do you read?

S/C Loud and clear, Houston. Go ahead.

HOUSTON Roger. Would like to get a "go" from you for the D-4.

S/C Roger. We're go.

HOUSTON Roger. And, we are go on the ground. Also, I'd like to advise you that we plan, over Carnarvon, to have you turn the squib batteries off and the bus ties on. The purpose is to conserve the squib batteries and also to let us monitor the currents during the purge so we can see what this fuel cell control #2 circuit breaker might be telling us as far as the currents that it's popping on. In addition, we want you to do a hydrogen purge at Carnarvon. This is a hydrogen only, on both sections. Then, at Hawaii, we will do an oxygen purge on both sections. The purpose here is to observe the effect of each type of purge and see which one may be helping us the most, if there is a difference. Then, we will power down over the U.S. The crossover should be left open through the entire thing here until you're complete with the purge at Hawaii. Do you read?

S/C Leave the crossover on through Hawaii?

HOUSTON Until after the purge at Hawaii. Did you copy all the rest, 7? Gemini 7, Houston.

S/C Go ahead. Gemini 7.

HOUSTON Did you copy the other information? Carnarvon will be in contact with you on this. Carnarvon Cap Com, Houston Flight.

CRO Carnarvon, go ahead.

This is Gemini Control, Houston. One minutes and 37 seconds ago, a Minuteman was launched from Vandenburg Air Force Base in California. It's gone through its pitch program successfully, first staged burned out; we've confirmed second stage ignition. The Gemini 7 spacecraft should come within about 650 miles of this bird as it nears its impact point in the Kwajalein area in the far West Pacific. It'll be something more than 20 minutes to impact after a 5000 mile flight across the Pacific. The pilots are to take radiometric measurements of the re-entering bird. They have all the pointing information. They probably won't see it until it's well below them. And, now we have ignition of Stage 3 confirmed. And, the report from Vandenburg block house is that everything is going good. Third stage right on the azimuth, and a required profile. The bird will pass approximately 100 miles north of the 7 track; and it will be on the order of 650 miles out in front of them. It's still going good, Vandenburg says. We clocked the lift off at 23 minutes after the hour. It'll be Hawaii on this pass before we know how well this re-entry experiment went. We'll be out of range of all the four stations out there in the far West Pacific, Carnarvon, CSQ, Hawaii, and Canton. Vandenburg says all's okay. And, we should have had burn out along about this time. The Flight Director has just advised the D-4, D-7 is go all the way. Carnarvon will advise 7 of that fact in a very few seconds, as 7 swings north and west of the Carnarvon Station. Vandenburg is completely happy with the launch profile. And, Vandenburg has confirmed burn out. After a flight of on the order of 5000 miles, it is to impact in the Kwajalein area. The flight will last something more than 20 minutes. Carnarvon now has TM solid. That's TM on the 7 spacecraft. There's the first call going up from 7. Let's tune in there.

CRO ....(Garble)...

S/C Roger. Thank you.

CRO Okay. We...You're scheduled for a purge on hydrogen only. Is it okay if we go along through the check list with you?

S/C Why don't you go ahead and give it to us as we want it, not... because we're working on D-4, D-7 now. So, I'd appreciate it if you did.

CRO Roger. Will do. Squib batteries 1 and 2 off.

S/C One and two are off.

CRO Bus ties 1 and 2 on.

S/C They're on.

CRO Squib battery 3 off.

S/C Off. Go ahead, Carnarvon.

CRO Purge section one, for hydrogen only.

S/C Roger. Purge complete, hydrogen.

CRO Roger. Fuel cell control 2 circuit breaker on.

S/C Fuel cell control 2 is on.

CRO Purge section two.

S/C Roger. Hydrogen purge complete on 2.

CRO Roger. Fuel cell control 2 circuit breaker off.

S/C Control #2 is off.

CRO Roger. Leave your crossover on until after the purge over Hawaii.

S/C Roger. Crossover on.

CRO Okay. That completes your purge. You're looking good here on the ground.

S/C Roger. We have the squib batteries off and the bus ties on.

CRO Flight, you did want to leave the squib batteries off, right; and the bus ties on?

HOUSTON That's correct. That's the configuration we want.

CRO Roge.

HOUSTON Did you notice any change in the current when he ....

CRO Not yet, Flight. We're getting that now.

HOUSTON Okay. Fine. Thank you.

CRO Okay, Flight. Bus 1 before was 21.3 and bus 2 was 15.0; after the purge, bus 1 was 22.9, bus 2 15.4.

HOUSTON What do you mean after the purge? You mean after he put the circuit breaker on?

CRO That's affirmed.

HOUSTON Okay. What do you read now?

CRO Okay, we're getting one now. Okay. Bus 1 is 21.5, bus 2 is 14.8.

HOUSTON Thank you.

This is Gemini Control, Houston. In about 15 minutes, the Minuteman should be re-entering the atmosphere in the Kwajalein area. According to the calculations made here, it will be 650 miles east of 7; and it'll be approximately 100 miles north of the 7 track; so the crew should be able to look down to its left and track it, hopefully. The missile will have made its flight out there at an altitude considerably higher than the 161 mile altitude of 7; and after it re-enters, the theory is that the crew should be able to observe it as it burns into the atmosphere. That seems to wrap up the conversation by Carnarvon. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control Houston at 238 hours, 23 minutes into the flight. At 11:51 Central Standard Time, Elliot See attempted to raise seven on a patch through the Range Tracker, a ship parked out west of Hawaii. It was a cloudy signal but it was readable. Frank Borman came back at 52 minutes after the hour into the question about how did it go on the D-4/D-7, that is tracking that reentering Minuteman out in the Kwajalein area. Borman had a one word reply "Bullseye" and he sounded pretty elated when he said it. The communications were broken off at this point, garbled as they were and we should raise them again with a cleaner signal through Hawaii. But first let's play this Range Tracker tape. Stand by, we don't seem to have that tape racked up, we should have it momentarily.

HOU Range Tracker go remote.

RTK Range Tracker remote.

HOU Gemini 7, Gemini 7, Houston Cap Com, how do you read? Gemini 7, Gemini 7, Houston Cap Com, how do you read?

S/C This is Gemini 7 reading you loud and clear.

HOU Roger, we're coming to you through the RTK, could you tell us how D-4 went?

S/C Bullseye.

HOU Roger

Gemini Control Houston here again. While that tape was playing the Hawaii station had raised seven. Jim Lovell was on the line and they are starting an ode to purge, an oxygen purge of the fuel cells. They also have powered down their platform. There has been no additional conversation regarding that D-4 experiment.

Houston here, according to Jim Lovell's report there, this would indicate he got about two minutes of radiometric tape on that reentry experiment. We don't know whether it was an overlap or whether its all on the bird itself or just what. But he reported earlier he had slightly more than seven minutes, now it's down a little more than five. The Guidance and Navigation and Control Engineer here, Ernie Aldrich, is interested in knowing how much fuel was used during that exercise. We're going to get that right now, I think.

HAW ...Control, number two circuit breaker coming on for section two purge oxygen.

HOU Roger.

HOU FLIGHT Send us another main Hawaii.

HAW Roger, flight.

S/C Hawaii, Gemini 7 here, you might tell people in Houston that we're starting to condense our water in the lower part of the seat so it's pretty cold. The wall temperature and the seats are cold. And we're starting to get condensation from it.

HAW Roger. Copy Flight?

HOU FLIGHT Affirmative.

Houston here, earlier Lovell reported his onboard fuel reading was about 19%. It has consistently read slightly below the correct value. It would correct out to something like 22 to 23 %. Before this rev it was about 25%.

S/C Hawaii, 7.

HAW Roger, 7.

S/C Fuel Cell control circuit breaker number two is on. Cross over is still on.

HAW Roger, would you turn the cross over switch to the off position.

S/C Roger, cross over is now off.

HAW Roger, we'd like you not to start your power down until you're over the states so it can be observed.

S/C Roger.

HAW And let your squibs on until further directed -- I mean squibs off until further directed.

S/C Roger, they're off.....

Houston here, that very likely will wrap up the conversation from Hawaii, as it is now 4 to 500 miles northeast of the island. At 238 hours 31 minutes into the flight, this is Gemini Control Houston.

END OF TAPE

Gemini Control Houston here, 238 hours 57 minutes into the flight. That D-4 Minuteman reentry experiment apparently, by all reports, was very successful, that's what Jim Lovell said about it. He said he could observe it with no strain. Frank Borman said tracking was difficult because it was moving so swiftly, but he was able to keep on it. Those two vehicles had a closing velocity on one another of an estimated 29 thousand miles per hour. The point of closest approach was approximately 140 miles, the Minuteman would have been slightly below and to the left of Gemini 7. The Minuteman went through the Gemini 7 altitude of 160 nautical miles at a point about 650 miles northeast of Gemini 7. A general reference, the Minuteman was on a trajectory which carried it about 100 miles north of the Gemini track. All in all, apparently very successful. The Pilot and the Command Pilot discussed the experiment and some other onboard considerations in this tape going across the United States.

Guaymas — Guaymas has solid TM and all systems are go.

Flight — Roger, Guaymas.

Cap Com — Gemini 7, Houston. We just sent you a TX.

S/C — Roger, Houston.

Cap Com — We would like to get some readings for you in conjunction with this water report. We would like a reading on the cabin humidity and the dry bulb temperature and the surface temperature.

S/C — Roger.

Cap Com — Also a report on the position of your recirc valve.

S/C — Roger, the recirc valve is closed. It may be an erroneous report, we can't find anymore evidence of condensation anywhere else.

Cap Com — Roger and this was under the seats did you say?

S/C In front of the seat.

Cap Com In front of the seats on the floor or behind your legs part.

S/C Behind our legs, I mean my legs.

S/C I have an explanation, but Frank won't buy it.

Cap Com Say again Jim.

S/C I don't believe there is universal condensation in the cabin, we can't find anymore.

Cap Com Roger. I was about to suggest the same explanation, Jim.

S/C I'm about ready to believe it.

Cap Com We are ready to watch your power down anytime you are.

S/C Okay, we'll power down now.

Cap Com Roger.

S/C Powering down.

Cap Com Roger, 7.

S/C Okay, I think that's it, Elliot.

Cap Com Very good.

S/C Cabin temperature is 70.

Cap Com Roger, cabin temp 70.

S/C Dew point is 55.

Cap Com Roger.

S/C I'll give you the wall temperature where the condensation was from.

Cap Com Roger.

S/C Okay, I get bubbles right at 69 degrees.

Cap Com 69 degrees, roger.

Gemini 7, do you have any other comments on the D-4 run.

S/C Say again Houston.

Cap Com — Do you have any other comments on the D-4 run.

S/C — Elliot, I'd say very successful, in a direct track, saw it, no strain.

Cap Com — Roger, was the tracking considerably different than most of your other targets?

S/C — It was entirely different. I had to catch this one, I wasn't on it too long, but we got some pretty good shots of it, it was moving very very swiftly.

Cap Com — Roger. We want to watch your fuel here, so we would like you to not use anymore fuel until we do get a chance to look at it. The next fuel using activity should be this dim-light photo at 239 18, so we would like you to not use any until then if you can manage it.

S/C — Very well.

Cap Com — Gemini 7, Houston. We feel that you are at your, essentially at your cutoff point for fuel in preparation for the rendezvous tomorrow, so we would like you to not use anymore fuel today if you can possibly manage it.

S/C — Very well. We won't use anymore fuel today and we will have to scrub those photographs.

Cap Com — Roger. Just pick up anything you can in drifting flight and if you have any venting rates or something you have to stop, of course, you are free to do that.

S/C — Roger.

Cap Com — Gemini 7, we would like you to place your fuel cell O_2 switch in the quantity read position and leave it there for the time being.

Cap Com — Gemini 7, Houston.

S/C — Go ahead Houston.

Cap Com — I'd like to explain about this fuel cell O_2 switch, Jim. Since we cannot monitor the pressure we feel this is the only way that we can -- we have of keeping track of the fuel cell O_2 if the auto switch should stick in the on position, it would build up your pressure and vent you at a prohibited rate and we would want to know about that as soon as we could so our thought is to leave the fuel cell O_2 switch in that position so we can get, essentially a continuous check on it. Of course, you have a continuous check yourself and we'll only go out of that to get readings on the other ones.

S/C — Roger, we'll leave it in the fuel cell O_2 position.

Cap Com — Roger.

END OF TAPE

Gemini Control here. We've had no additional reports from 7 since it left the State area that last time, when we last heard from it through Antigua, when it swung down the along the northeast coast of South America. Out over the tip of Africa, it's now over the Indian Ocean, on its 150th revolution around the Earth. At Hawaii on this pass, we get a crew status report on Frank Borman, followed up by a crew status report on Jim Lovell over Texas. For the information of those newsmen who carefully monitor the information flow related to these missions, we have a few statistics. As of 7:00 this morning, we had had 408 individual announcements from Mission Control here in Houston or from Gemini Launch Control at the Cape. In addition to that we've had 29 press briefings, and this amounted to —, the reproduction of these statements, the playing of the tapes, the announcements, and the briefings, amounted to 1700 individual pieces of paper. Here in Houston we reproduce each announcement, each piece of paper, 200 times; and at the Cape, they're reproduced 100 times. The total wordage in those 408 briefings and announcements, 29 briefings, 408 announcements, gave us a total wordage of 568,000 words. The total poundage on the paper needed to reproduce those in the quantities I gave amounts to ~~52,380~~ 4365 pounds of paper, a little more than ~~26~~ 2½ tons. The cost of the paper is best estimated at a little over $500. One general comment on the tapes, the conversations between spacecraft and ground, is that it is running slightly ahead of that of Gemini 5. Apparently, 2 more talkative pilots. This is Gemini Control, Houston, at 239 hours, 28 minutes into the flight.

END OF TAPE

Gemini Control, Houston, here. We're 10 minutes exactly into our 11th day of Gemini 7 operations. 240 hours, 10 minutes. As the spacecraft swung over Hawaii on the last pass, we got medical information on the command pilot; and this is how it went.

HAW Hawaii has TM solid.

HOUSTON Roger, Hawaii.

HAW Gemini 7, Hawaii Cap Com. We have a valid temperature, standing by for your blood pressure.

S/C Coming down.

HAW Your cuff is full scale. We have a good blood pressure. Standing by for exercise.

S/C Mark.

HOUSTON Hawaii Surgeon, this is Houston Flight.

HAW This is Hawaiian Surgeon.

HOUSTON Have your Cap Com tell him to drink more water, will you?

HAW Roger. Your cuff is full scale. We have a good blood pressure. Standing by for your food and water report.

S/C Roger. Total water for the command pilot to date is 823 ounces. For breakfast, he had Day 10, Meal A, minus the beef bites. For lunch we had...he had Day 14, Meal B. And, the pilot had the same breakfast and lunch; for breakfast, he had minus the peanut tubes, and 2 beef bites. His total water consumption is 658. Total in Column 5 is 24 for the pilot, and 27 for the command pilot.

HAW Gemini 7, do you have a Column 6 report?

S/C Roger. I'm glad to report that the pilot report is now 4 and the command pilot is still 5.

HAW Thank you. Surgeon out. Roger. Seven, we'd like to have you

tape recorder power circuit breaker to the closed position.

S/C Power circuit breaker is closed.

HAW Flight, we have a tape on. It went off again.

HOUSTON Leave it on.

HAW Do you have your delay time transmitter circuit breaker pulled?

S/C That is affirmative.

HAW Would you close the circuit breaker, please.

S/C Roger.

HAW We would like for the pilot to drink more water.

S/C Roger. I'm floating now, but I'll drink some more.

HAW Roger. Understand. Houston Flight, Hawaii Cap Com.

HOUSTON Go ahead.

HAW Okay we have the delay time TM on and the tape recorder is running in a dump position.

HOUSTON Roge. Thank you. We want to leave it there, as you know.

HAW Roge. Hawaii has TM LOS.

Gemini Control, Houston, here, again. Elliot See has raised 7 via California. They've been talking about the fuel cell situation in general, which is looking up right now. We've gone through a different mode it seems like each day. We're remoting through Guaymas; and let's see if we can't get some more through that conversation.

S/C Elliot, is the plan to leave the squib batteries off the line until re-entry now?

HOUSTON That's a possibility, 7. We're continuing to monitor it; and we may very well do that.

S/C Thank you.

HOUSTON Gemini 7, Houston. Did Hawaii give you a briefing on the tape recorder?

S/C Negative.

HOUSTON Okay, the plan here is to let it run and see if this will free it up. We'll just keep you informed on this one.

S/C Did they get any TM on the shot?

HOUSTON Say again.

S/C Did Brentnall get any TM on the re-entry?

HOUSTON They got data on the ground, Gemini 7.

S/C They did get data on the ground, thank you.

HOUSTON That is affirmative. They received 8 minutes of data on the ground, 7.

S/C Roger.

HOUSTON Jim, we have a valid oral temp on you. You can take the thermometer out of your mouth and let me know when you're finished with the purge; we're ready to start your crew status report.

S/C Roge. I'll send the blood pressure right down. I'm starting the second part of the purge of the 02, the last part.

HOUSTON Roger. Texas remote, Guaymas local

TEXAS Texas remote.

GYM Guaymas local.

HOUSTON Cuff is full scale, Gemini 7.

Gemini Control, here. While the Surgeon is getting his data, the Capsule Communicator is squeezing in a bite of lunch, in between conversations. He's handling a sandwich and a piece of cake at his desk.

HOUSTON Give me a mark when you're ready to do the exercise, Jim, after the purge.

S/C Roger. Houston, purge complete. Fuel cell control 2 circuit breaker off. Crossover off.

HOUSTON Roger, Gemini 7.

S/C Exercise starting.

HOUSTON Roger.

S/C Blood pressure coming up.

HOUSTON Cuff is full scale. Gemini 7, you can open up the tape recorder power circuit breaker now. We don't seem to be having any luck with that.

S/C Tape recorder power circuit breaker open.

HOUSTON Roger. Gemini 7, we have a valid blood pressure.

S/C Roger.

HOUSTON Jim, I know you've been told about the water. I want to add just one thing; you're doing better today than you did yesterday, but you still need to keep on the water.

S/C Roger. I'm kind of floating, but I'll keep drinking.

Gemini Control here, with the spacecraft directly over the Panama Canal. We apparently have concluded the conversation. The tag end of that conversation, we were getting about 2000 miles range on our signal out of Texas. This is Gemini Control, Houston.

END OF TAPE

Gemini Control Houston here at 241 hours 2 minutes into the flight. Just a couple of minutes ago, Elliot See called 7 while over Tananarive. And among other operational business he had some bad news to pass on to Frank Borman. Alas, Tommy Nobis has signed with Atlanta. Here is how the conversation went.

Tananarive — Tananarive has acquisition.

Cap Com — Gemini 7, Houston. How do you read. Gemini 7, Gemini 7 Houston Cap Com, how do you read.

S/C — Go Houston. 7 here.

Cap Com — You seen any improvement on stack 2C, Jim.

S/C — Negative. It's way down there, about an amp and one-half.

Cap Com — Roger, copy. Gemini 7, Houston. Do you still read us.

S/C — Roger Houston.

Cap Com — By the way, you can tell Frank Tommy Nobis went with Atlanta.

S/C — There's no joy in Mudville.

Cap Com — Roger.

S/C — Elliot, you got the troops working on another cure for this section 2?

Cap Com — Roger, we're working on it.

S/C — Attaboy, you've done good so far, it's been about 4 or 5 days you've nursed it along. Just about 3 or 4 more and we'll have it made.

Cap Com — We're thinking about taking stack 2C off the line again, but we are not ready to do that yet.

S/C — Roger.

END OF TAPE

This is Gemini Control, Houston at 241 hours, 26 minutes into the flight. About 15 minutes ago at an elapsed...GMT time of 40 minutes after the hour, it developed that we have some trouble in communications. This is the first communications difficulty we've experienced since the start of this mission. I'd like to emphasize it is not a spacecraft to ground difficulty. It was a communications problem between our Mission Control Center here and the Coastal Sentry Quebec, parked off the coast of China. At this point, it's not clear to us whether the problem is in the SYNCOM Satelite, through which CSQ is beaming its signal or has been so clearly for the past 10 days, or whether it's with the ground equipment associated with SYNCOM. In any case, the signal was...the voice signal was completely unintelligible. CSQ, we know, was communicating with 7; because we still have a teletype circuit open with them. So, we'll have to await 7's passage across Hawaii to know just exactly what's gone on for the last 15 minutes. We're sure that everything's in good shape, though, by CSQ from the teletype line. In the meantime, we'll check additionally to try to pin down the problem; see if it is in the SYMCOM 3 Satelite, the ground equipment, or just where. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control. We are now 241 hours and 46 minutes into the flight of Gemini 7 which is now passing over the Pacific on its 151st revolution. A few minutes ago we had voice communications between the flight crew and the Hawaiian tracking station and at this time we will play that voice conversation.

Hawaii — Gemini 7, Hawaii Cap Com.

S/C — Go ahead Hawaii. 7 here.

Hawaii — Is that 2 Charlie still on the line.

S/C — Roger, stack 2 Charlie still looks like it is pulling about 1½ amps.

Hawaii — Roger. Copy that.

Flight — Yes, I guess we don't know why he didn't take it off because we haven't heard from the CSQ.

Hawaii — Roger. One of our people thought he said that if it goes below 1½ take it off the line, but we weren't quite sure either.

Flight — That's too bad because we wanted him to take it off.

S/C — Hawaii, I have the flight plan report if you are ready to copy.

Hawaii — Go ahead with your flight plan report.

S/C — Everything ... (garbled)

Hawaii — Okay, you are very hard to read. Can you try the other antenna.

S/C — How's that now?

Hawaii — Lot's better, go ahead again will you please. Will you read that flight plan report for us again please.

S/C — Roger, standby. I lost my place.

Hawaii — Okay.

S/C Okay. Everything was accomplished that was scheduled today with the exception of Apollo sequence 97 and S-8/D-13 which was cancelled because of weather. Also cancelled because of lack of fuel was all the dim-light photography that was scheduled.

Hawaii Roger, I got that.

S/C Okay, now today we are reporting film remaining rather than film used. We have 54 exposures of high contrast black and white, 14 color shifted IR, 57 of the high-speed SO217's, 27 dim light black and white. And we have a 140 standard SO217. We have 16 - correction - 5 magazines plus 35 feet of 16-mm movie camera film and we are requesting permission to try to take more targets of opportunity in drifting flight, it's pretty obvious that we are not going to have the fuel remaining to conduct the serious photography and I think we would like to go ahead and start shooting these things to at least expose the film in orbit.

Hawaii Okay, let me make sure I got the last two items here, 25 feet of 16-mm movie and 140 exposures of standard SO217, is that right?

S/C That's right except for the 16-mm, it's 5 magazines plus 35 feet.

Hawaii 5 plus 35, I understand.

S/C And the scores for the vision tester this morning were Command Pilot minus 3, Pilot minus 4.

Hawaii Okay, got that.

C/C	And that's about it.
Hawaii	Okay. Give me a dry bulb and a dew point at the return hose, please.
S/C	Stand by, just a minute.
Hawaii	Flight, Hawaii.
Flight	Go ahead.
Hawaii	Okay, do you want them to take it off the line or what is your purpose.
Flight	No, we are going to give him a time, standby, that we want him to take it off and then put it back on over the RKV.
Hawaii	We're reading about 1.7 here.
Flight	Say again please.
Hawaii	We're reading about 1.7 amps here.
light	Okay, what we'd like to have him do is take the 2 Charlie off the line at 241 50, remind him of course, that he's got to put the fuel cell control circuit breaker on.
Hawaii	Okay, got that.
Flight	We'll have him put it back on at the RKV.
Hawaii	Roger, I understand.
S/C	Okay, the ambient is 79, the dew point is 60 right at the entrance to the bypass hose and the exit from the cabin.
Hawaii	Okay, very good. Here's what we'd like you to do with 2 charlie.
S/C	Go ahead.
Hawaii	At 241 50 00, put your fuel cell control circuit breaker on and take 2 charlie off the line.
C/C	Understand, at 241 50 00, put the fuel cell control number 2 circuit breaker on the line and take 2 charlie off.

Hawaii Roger, and they will have you put it back on over the RKV on the RKV's instructions.

S/C Roger.

Flight And then circuit breaker off.

Hawaii And at that time we would like you to turn your circuit breaker off.

Flight That's after he puts it on and takes 2 charlie on the line.

S/C Roger, ... (garbled) put it back on the line you want the circuit breaker off again, is that right?

Hawaii Roger, affirmative. You got it straight. Flight, do you want me to get an open circuit voltage readout when he's off the line.

Flight Say again please.

Hawaii You want him to get an open circuit voltage readout and repeat it down to the RKV while he is off the line.

Flight Yeah, we want him to monitor the open circuit voltage and see what it does during the time it is off the line.

Hawaii Okay. Okay, while you are off the line on that 2 Charlie, we'd like you to monitor that open circuit voltage for us.

S/C Will do.

Hawaii Okay.

S/C Hawaii, that time again was 241 50, was that correct?

Hawaii That's affirmative. You've got it. Okay Flight, he'd like to know when he can start going after targets of opportunity. He feels that with the fuel situation that's about where he's going to end up.

Flight I'm sure that's okay, but stand by a minute.

Hawaii Okay.

Flight Okay, tell him that's okay with us. Do as he sees fit with

the film.

Hawaii Okay, very good. 7, Hawaii. They'd like you to go ahead and do as you see fit with the film. You've got a go on that.

S/C Roger.

Hawaii LOS at Hawaii.

That was voice communication playback on tape from our flight crew aboard Gemini 7 and the Hawaiian tracking station. Here in the Mission Control Center we are in the midst of a shift of change. The Red Team of Flight Controllers moving out and the White Team headed by Flight Director Gene Kranz taking over. This is Gemini Control, 241 hours 52 minutes into our flight.

END OF TAPE

This is Gemini Control. We are 241 hours, 57 minutes into our flight mission. Gemini 7 is on its 151st revolution over the earth, as a matter of fact it will in a very few minutes be starting its 152nd revolution. A few minutes ago we had voice communication between the flight crew and the Guaymas, Mexico tracking station. At this time we will play back the taped voice communication.

GYM Flight, Guaymas.

FLIGHT Roger. About 252, excuse me, about 24152. We'll have you verify that he returned that circuit breaker back to the open position on fuel cell control No. 2.

GYM Roger. Will do.

FLIGHT Guaymas, we'd like an LOS main.

GYM Roger.

FLIGHT Roger. And we'd also like to know, does it look like he's pulled two Charlie off the line yet?

GYM We're getting the readouts now.

FLIGHT Pulled it off the line yet?

GYM We're still adding. Roger. ...

FLIGHT OK, will you have him verify that the fuel cell control circuit breaker No. 2 is open.

GYM Roger. Gemini 7, Guaymas Cap Com.

S/C Go ahead, Guaymas.

GYM Roger. We'd like to verify that the fuel cell control circuit breaker No. 2 is off.

S/C No, we put it on till we opened stack 2C.

GYM Roger. We'd like you to open it until you're informed to put it back on line.

S/C Roger. It's back on the line again.

GYM Negative. We don't want it back on the line again. We want the circuit breaker open.

S/C Roger. The circuit breaker is off now.

GYM Roger. Understand.

FLIGHT OK. You can have them go back to the command position on his telemetry.

GYM Roger. You can place your TM switch back to the command position.

S/C Roger. On command.

GYM We have LOS, Flight, on Gemini 7.

FLIGHT Roger.

GYM And the LOS main is on its way.

FLIGHT Roger.

END OF TAPE

This is Gemini Control. We are now at 243 hours and 45 minutes into the flight of Gemini 7. Gemini 7 is now in the 153rd revolution around the earth and is now passing over South America and shortly will be within voice communication range of the Rose Knot Tracking Ship. The power failure which interrupted our communications with the Coastal Sentry Tracking Ship occurred about an hour and a half ago at Helimonau, Hawaii, where the SINCOM transmitter site is located. The failure was due to an electrical storm in that area. The critical power supply also failed and a power surge knocked out a parametric amplifier at that SINCOM station. Power for the Coastal Sentry Tracking Ship is now being furnished by another circuit, from Honolulu to Guam to Clark Field in the Phillippines, thence to the SINCOM station there, and from that station to a ship call to Kingsport, which is located near the Coastal Sentry, and we are now back in communication via another routing. We expect momentarily, I understand we now have communications with the Rose Knot and we'll tune in live.

S/C Roger, ...

RKV Would you place the switch to fuel-cell H_2?

S/C Fuel-cell H_2.

RKV Okay, would you place the switch back to fuel-cell O_2 and we'd like you to leave it there for the rest of the night.

RKV Flight, RKV.

FLIGHT RKV.

RKV Okay. We're watching the purge closely. There's been no change in that delta P light. They're still both on.

FLIGHT Okay.

RKV Gemini 7, RKV.

S/C Go ahead, please.

RKV Okay, we'd like to give you the bedtime cryo rolls for the night.

RKV We'd like your ECS O_2 heater switch to OFF. Your fuel-cell O_2 heater switch to AUTO, and your fuel-cell H_2 heater switch to OFF. Your present pressure is all right for the night, and your minimum for the night will be 490.

S/C Roger, understand. Minimum 490 for hydrogen.
Say again bedtime rolls for the 2 delta P lights, please.

RKV We're working on it. In fact, we'll give you a real good briefing over Tananarive.

S/C Okay.

RKV I can bring you up to date on your OAMS status. Your fuel remaining is 37 pounds and this is where we want to be at GT-6 lift-off if it goes tomorrow. At the beginning of the rendezvous activities we want to have a minimum of 36 pounds of fuel and this will represent a 1 percent drop in the present gage reading. A cut-off tomorrow for the station-keeping exercise will be 6 percent on the gage. And this will indicate 16 pounds of fuel remaining which will be an adequate minimum for the remainder of the mission.

S/C Roger.

RKV During the station-keeping exercise you should monitor the pressure in the reserve tank and if it drops as much as 50 psi you should stop the station-keeping. And at that time you will have 12 pounds of fuel available.

S/C Roger.

RKV Flight, RKV.

FLIGHT Go, RKV.

KV Okay. The ..... are going all right. The delta P lights are still on.

FLIGHT Roger.

S/C We're not going to be using much fuel on Thursday or Friday, are we?

RKV Doesn't look that way.

FLIGHT We'd like an LOS Main, RKV.

RKV Roger.

The purge is going good, Flight.

FLIGHT Okay.

S/C Purge complete. Heater controls circuit breaker no. 2 is OFF.

RKV Roger.

You copy, Flight?

FLIGHT Roger.

RKV Cross-over is also OFF.

FLIGHT Roger.

RKV All systems look good, Flight.

FLIGHT Roger. Boy, that section 2 is really up there percolating.

RKV I just got my summary back.

FLIGHT Roger.

RKV We're coming up on LOS flight, you got anything else?

FLIGHT Say again, RKV.

RKV I say we're coming up on LOS. Do you have anything else?

FLIGHT Negative.

We have been listening to live voice communication between Gemini 7 and the Rose Knot Tracking Ship. Now we will play back the voice tapes that have accumulated over the past one and a half hours, which include the Rose Knot Tracking Ship, Tananarive, the Coastal Sentry Tracking Ship, and Hawaii, on the 152nd revolution. We are now in the 153rd revolution.

RKV Flight, this is a GO flight. We have transmitted TX.

FLIGHT Roger, RKV.

RKV Flight, RKV.

FLIGHT Go, RKV.

RKV I got an event light. Bravo Bravo 03, O_2 to H_2O, section 1, delta P light ON.

FLIGHT Wow!

RKV Section 2 is OFF.

FLIGHT Section 2 BB 04 is OFF but BB 03 is on?

RKV That's affirmative.

FLIGHT Okay.

You could verify that the - oh, the crew doesn't know that. See if they have a section 2 delta P light.

RKV Say again, flight. It's hard to read you here.

FLIGHT Just checking. Verify that they have a section 1 delta P light onboard and that section 2 delta P light is out.

RKV Roger.

Gemini 7, RKV Cap Com.

S/C Roger, RKV. Do you read?

RKV Roger, I read. Do you have a delta P section 1 light on?

S/C ..... Houston watch what's been happening.

RKV Okay.

S/C At 24 - 241 50 we opened citcuit at section 2C. At 42 02 the delta P light went OFF with section 2C off the line and when the delta P light went OFF section 2C went off-scale high on the voltage. At 242 06 we got a delta P light again but this time on section 1. So when this - we were using this procedure the other day we were expecting to put 2C back on the line, we

S/C got a delta P light on section 1 so we immediately put 2C back on the line, and 2C is now carrying 4 volts - I mean 4 amps, the sections are even, but now we have a delta P light on section 1.

RKV Roger, understand.

Did you copy, flight?

FLIGHT Affirmative.

RKV Would you give me an OAMS propellant quantity readout, please?

S/C Roger. I read 16 percent. 16 to 17 percent.

RKV Roger. We'd like an OAMS source helium pressure readout.

S/C Roger. It's approximately 1250.

RKV Roger.

Gemini 7, RKV. I've got a block update for you when you're ready to copy.

S/C Go ahead.

RKV The RAP for 400K for all areas is 21 plus 40. Area 154-3: 245 42 59. Area 155-3: 247 18 24. 156-Bravo: 24 niner 07 04. Area 147-2: 24 niner 52 02. Area 158-2: 251 25 51. Area 159-2: 253 01 44. 160-1: 254 30 5 niner. Area 161-1: 256 06 4 niner. The weather in all that area is good.

S/C Roger.

FLIGHT RKV Cap Com, Houston Flight.

RKV Go ahead, flight.

FLIGHT Roger. We'd like to verify - - -

S/C .....checking now on these delta P light situation by now?

RKV Roger, stand by one, Gemini 7.

Go ahead, flight.

FLIGHT Roger, we'd like to verify that the cross-over switch is OFF.

RKV Would you verify that the cross-over switch is OFF.

S/C Roger, it is OFF and has been OFF.

RKV Okay. You copy, flight?

FLIGHT Affirmative. Tell 'em we're looking at it and we may come back to him over Tananarive.

RKV We're taking a look at it Gemini 7 and we'll probably contact you over Tananarive.

S/C Thank you.

RKV Flight, you want to know his sum?

FLIGHT Go ahead.

Say again.

RKV You want to know his summary?

FLIGHT Affirmative.

RKV Okay.

FLIGHT ..... What are your delta P indications at the present time?

RKV The same as they were before.

.....Bravo Bravo 03 is ON. Bravo Bravo 04 is OFF.

FLIGHT Okay.

RKV RKV has LOS.

FLIGHT Roger, RKV.

One thing we note here, Bill.

RKV Say again, flight.

FLIGHT One thing we note here. Looks like our fuel-cell water pressure has gone up slightly from the beginning of your pass to the end of your pass. Why don't you take a look at CL 01 and see if you saw any significant changes in that. Replay your tape.

RKV Roger, we'll play the tape back.

FLIGHT RKV Cap Com. Houston flight.

RKV Go ahead, flight.

FLIGHT Roger, Bill. What we think happened is when he pulled the 2C off line he let a big slug of water go into the system that backed up and gave him the O_2 to H_2O delta P. If you take a look at the Guaymas summary, the fuel-cell water pressure and the drinking water pressure was about 17 psi. At your LOS summary, it had risen to $17\frac{1}{2}$ psi, both in fuel-cell water pressure and drinking water pressure. We're going to talk to them over Tananarive.

RKV Rog.

CAP COM Tan anarive go remote

TAN Tananarive remote

TAN Tananarive has acquisition.

CAP COM Gemini 7, Gemini 7, Houston Cap Com. Over.

S/C Go ahead, Houston.

CAP COM Roger, Frank. What's the status of your delta P lights right now?

S/C Delta P no. for section 1 is ON.

CAP COM Understand no. 1 is ON and no. 2 is OFF. Here's what we think happened. It looks like possibly when you took 2 Charlie off the line it - indications are here that the fuel-cell water pressure. Let me start over. When you took section 2 Charlie off the line, it appears that a big slug of water went out of section 2. We got a water pressure indication down here which indicates that this is possible. As a result, your delta P light on section 2 would go OFF and apparently it did. Now,

if this happened, your delta P - some of this water could have backed up into section 1, which would be cause for your section 1 delta P light to come on. Now, we feel that if this is really what happened, your delta P light on section 1 probably will not remain on too long. It's difficult to give you an idea but probably within a rev it should be OFF.

S/C Okay.

CAP COM If your delta P light does come OFF and everything else looks normal, we may have done it again, we're still working on it, Frank but there's definite indications that you did get a slug of water out of 2 Charlie.

S/C Okay. Now the section 1 is starting to carry most of the load now, it's about a 1 amp difference, section 2 carrying 1 amp more than section 1.

CAP COM Yeah, we concur. We got this at LOS over the RKV that section 2 was starting to carry almost a full amp more than section 1.

S/C Righto.

CAP COM Now this was normal most of the day and evening last night when we were on.

S/C Right.

CAP COM We got 2 Charlie up to about 3.7 at RKV LOS.

S/C It's over 4 now. Four and a half.

CAP COM Okay. This is the only logical conclusion we can come up to right now, but as I said we did get a definite indication here of an increase in water pressure from the time you had 2 Charlie on the line 'till the time you took it off.

S/C So what you're saying is now the water pressure will go down and the delta P light will go off.

CAP COM This is what we're hoping. That the water pressure then will equalize or actually go down in section 1 and the delta P light should go out. It looks possibly like we've got a restriction in the water valve in section 2, which may be backing that water up in the section 2 and when we do some of these phenomenal things we've been doing for the last 3 days, we appear to get that water out in big blobs.

S/C Roger.

CAP COM Frank, it appears that section 1 - there's been no problem at all in draining the water out of it. There's no water backup at all.

S/C Roger.

CAP COM This is why we feel that that section 1 light will go off here shortly.

S/C Roger.

Houston, Gemini 7.

CAP COM Go ahead, Gemini 7.

S/C Now we've got 2 delta P lights!!

CAP COM Understand you've got section 1 and section 2 on.

S/C That's affirmative.

CAP COM Gemini 7, Gemini 7, this Houston.

S/C Go ahead, Houston.

CAP COM Okay. We're working on the problem trying to analyze it, Frank. If there's any change,I'll just be hanging on here, if there's any change within the next 4 minutes prior to Tananarive LOS, just give me a call.

S/C Do you have any sort of recommended action to take if the amps start dropping in a hurry?

CAP COM Gemini 7, Gemini 7, Houston. Not at the present moment but we're working on it and we'll get word up to you at CSQ.

S/C Okay.

CAP COM Gemini 7, this Houston. We've got one full rev, yet. We've got CSQ, Hawaii, and RKV prior to the sleep period.

S/C Roger. We'll be happy to stay awake 'till you get this thing fixed up.

CAP COM Yeah, I'm with you on that one.

TAN Tananarive has LOS.

Thank you.

HOUSTON CSQ Cap Com Houston procedures voice check. How do you read?

CSQ Houston procedures. CSQ Cap Com. I read you weak, with background noise.

HOUSTON Read you loud and clear, CSQ.

Okay, we'll try to get something here to you shortly, Chuck.

CSQ Roger.

AFD, CSQ.

HOUSTON Go ahead.

CSQ Voice Check.

HOUSTON Loud and clear.

CSQ Loud and clear here. H-1 minute 40 seconds.

HOUSTON Okay, all we want is a readout on the BAO 3 and 4 and we'll advise you.

FLIGHT That's BB 03 and BB 04.

CSQ AFD. CSQ. You faded out and broken, repeat.

FLIGHT Okay. Let us know what delta P lights you have on the ground at your acquisition.

CSQ Uh, Roger.

HOUSTON CSQ, AFD.

CSQ Go ahead.

HOUSTON Have you got a Mi c.s.t 152 on your machine right now?

CSQ Say again number.

HOUSTON 22 20.

CSQ Negative. I'm receiving a PAD for 153-3.

HOUSTON Okay. How about singing out when you get it.

R 22 20.

CSQ Roger.

We show Bravo Bravo 03 and Bravo Bravo 04 both lights ON.

FLIGHT Roger, CSQ.

CSQ AFD, CSQ receiving 22 20 00.

HOUSTON Okay. You can see I made a mistake there on the BA's.

FLIGHT How do the sections look on ground telemetry?

Give me your main bus currents.

CSQ Stand by flight. We'll check it.

FLIGHT Okay. We just got your summary. You don't need 'em.

CSQ Gemini 7, CSQ Cap Com.

S/C Go ahead CSQ. Gemini 7.

CSQ Roger. Still working on that fuel cell - - -

END OF TAPE

CSQ	Roger, Still working on that fuel-cell problem. I have a MAP update when you're ready to copy and I'd like to ask if you've noticed any change in your delta P lights since Tananarive.
S/C	Negative, Stu. Delta P lights are ON.
CSQ	Roger. Do I have any map updates?
CSQ	Roger. Title is node. Time 242 43 33. Remarks: Rev 152. 75 decimal 5 degrees east. Right ascension: 08 4 niner 04.
S/C	Roger, understand. 75.5 degrees east.
CSQ	Affirmative.
FLIGHT	I'd like an LOS main, CSQ.
CSQ	Roger, flight.
IGHT	AFD, monitor this loop for me.
CSQ	Flight, CSQ.
HOUSTON	Go ahead.
CSQ	We copy for fuel-cell water pressure 17 decimal 4. The drinking water pressure 17 decimal 5.
HOUSTON	Roger, I copied.
CSQ	Does that agree with AOS sounding, main sounding?
HOUSTON	Yes. I've got 17.4 and 17.5 over your first main.
CSQ	Roger.
HOUSTON	CSQ, would you send us Alpha and Bravo summary, too, please?
CSQ	Roger, Procedures AFD, CSQ.
FLIGHT	Go ahead.
Q	Okay. We're showing the stack currents and the delta Pressures holding steady.
FLIGHT	Okay.

FLIGHT Give us a mark when you punch up your last main, will you please?

CSQ Roger. Ending main.

FLIGHT Roger.

CSQ LOS, CSQ.

FLIGHT Roger.

CSQ AFD, CSQ.

FLIGHT Go ahead.

CSQ Okay. Again we show no change in any of the currents or water pressures.

FLIGHT Okay. Thank you.

FLIGHT Hawaii, AFD.

HAW AFD, Hawaii Cap Com.

FLIGHT We've got nothing for you except to advise them of a UHF 6 at RKV.

HAW Uh, Roger.

FLIGHT We have our fuel-cell experts in a 360-degree circle around flight at this time.

HAW AFD, Hawaii.

FLIGHT Go ahead, Hawaii.

HAW We haven't locked up solid but both lights are ON.

FLIGHT Rog. Understand both lights are ON.

HAW TM solid, Hawaii.

Gemini 7, Hawaii Cap Com.

S/C Go ahead, Hawaii, Gemini 7.

HAW Okay. Which lights do you have on?

S/C Have them both on.

HAW Okay. We agree with you here on the ground. How're you doing?

S/C Okay. We'd like to get some light out. One of them anyway.

HAW So would we.

S/C Do you have any words of wisdom?

HAW I'm only one of the one thousand people who have an idea on it!

S/C No instructions though, huh?

HAW Nothing as yet. You'll have a UHF 6 over the RKV if that'll make you feel better.

S/C Okay.

FLIGHT Hawaii, you can tell 'em we feel we got a pretty good handle on it right now. We'll probably talk to them over Tananarive again. We want to talk to them after completion of the purge.

HAW Okay, very good.

Think they've got a handle on it.

S/C Okay.

HAW After you complete the purge they'll probably talk to you over Tananarive and then they'll have a little discussion with you there.

S/C Roger.

HAW AFD, Hawaii. Other than the two lights he's looking real good.

FLIGHT Roger, Hawaii.

HAW 2 Charlie is really up there.

FLIGHT What are you reading?

HAW 4.2.

FLIGHT Very nice!

Hawaii, Houston. We'd like an LOS main, please.

HAW Roger.

AFD, Hawaii.

FLIGHT Go ahead.

HAW Okay. Now 2 Charlie is reading 3.76. He's probably got a heater cycling.

FLIGHT Okay. We have 38 at your AOS.

HAW Yeah, well, this is a different reading.

FLIGHT Okay. And we think we've got a pretty good handle on it now. You might monitor the briefing over the Tananarive here. We're doing it over Tananarive mainly because we won't have all of the information available by the time we get to RKV.

HAW Very good.

FLIGHT We do have some slight changes, possibly in his procedures upon awakening in the morning. What this basically amounts to is before they consume any large quantity of water, we're probably going to want them to purge the fuel-cell. In addition, we're going to ask them not to - both of them consume all of their water on awakening, immediately or in very close proximity to each other.

HAW You're going to have them to consume it or not to consume it?

FLIGHT They're going to have to drink water, no question there, but I think what we're after is not to have 'em both take out large slugs of it, very close together, because it looks, well, we'll be back to you on this, Ed. You'll monitor the briefing over Tananarive.

HAW Wouldn't miss it.

FLIGHT And then we'll have the people write up a long, very long detailed briefing here.

HAW Roger, flight.

2 Charlie has now leveled off at 3.76.

FLIGHT 3.76? - it's holding!

HAW Roger.

HAW LOS at Hawaii.

That was taped voice communication between Command Pilot Frank Borman of Gemini 7 and the ground tracking stations, the ship Rose Knot, Tananarive, the ship Coastal Sentry, and Hawaii during the 152nd revolution. Gemini 7 is now on its 153rd revolution and is passing over the Indian Ocean. This is Gemini Control, 244 hours and 13 minutes into our mission.

END OF TAPE

This is Gemini Control. We are 244 hours and 19 minutes - 20 minutes now, into our mission of Gemini 7. At the present time Gemini 7 is passing over the Indian Ocean and is just coming up on the West Coast of India. It is on the 153rd revolution over the earth. According to our flight plan our flight crew is now in a sleep period which will extend for approximately 10 hours. As the Gemini 7 passed over, or near the Tananarive tracking station a short while ago, we had voice communication between the flight crew with Command Pilot Frank Borman and the Mission Control Center here in Houston. The Voice on the Houston end is our spacecraft communicator, Gene Cernan. And as you may have been following the problems we are having with the fuel cells, it appears now that we have a handle on the problem and the voice communication will bear this out. We will now play back the voice communication over Tananarive.

Cap Com — Gemini 7, Gemini 7, Houston Cap Com, over.

S/C — Gemini 7.

Cap Com — Gemini 7, Houston. Reading you loud and clear.

S/C — The number 1 delta P light went out at 24400.

Cap Com — Roger. Gemini 7 I just won a cup of coffee, thanks a lot. Here's the experts evaluation of the status of these delta P lights and the way they have been behaving, if you'd like to listen.

S/C — Roger.

Cap Com — Okay. We believe here that when the sudden transfer of water took place a couple of revs ago, when you open circuited 2 Charlie, the water reference pressure surged and the oxygen and the hydrogen regulators on both sections

opened up and supplied gas to the cells. The water reference pressure then decayed which left a higher oxygen pressure in both cells. This would account for both delta P lights coming on at the time they did.

S/C Okay, I've still got a delta P light on section 2.

Cap Com Rog. We understand, you still got section 2 delta P light. Here's what we would like you to do, Frank. We feel that the large withdrawal of water in the mornings is disrupting the system . . . . . water pressure suddenly. This is when you take a large quantity of water out and drink it. And we would like you to take drinking water . . . . and not both you and Jim at the same time. The doctors concur on this. We are all in agreement. And we'd also like you to purge the fuel cells before drinking your breakfast water. We'll attempt to schedule appropriately in the flight plan.

S/C Very well.

Cap Com Okay, now you've got section 1 delta off and section 2 delta P on, right? Gemini 7, Houston.

S/C Go ahead.

Cap Com Okay, the fact that the section 1 delta P did go out and the fact that section 2 stayed on, without going into a great amount of detail confirms what we have been suspecting down here. So it looks like the evaluation of the problem is

on pretty firm footing. We don't want you to loose any sleep about it because we'll be watching it pretty close throughout the night. Right now, at least as of RKV LOS, both section 1 and section 2 are performing very satisfactorily.

S/C . . . garbled . .

Canaries Canaries has LOS.

That was taped voice communication between Gemini 7 and our command pilot, Frank Borman, with the spacecraft communicator here in the Mission Control Center. We are now 244 hours and 24 minutes into the mission of Gemini 7. We are on the 153rd revolution. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are 245 hours and 20 minutes into our mission. Gemini 7 at the present time is passing over the southern part of South America and very shortly will more out over the South Atlantic. According to our flight plan, our crew is of course still in its sleep period. We do not as yet have any data from the ground read outs as to whether the crew is asleep. As soon as we do get that information we will pass it on to you. Our last readout was over the Hawaiian tracking station and at that time the crew was quiet but awake. This is Gemini Control, 245 hours and 20 minutes into the mission of Gemini 7.

END OF TAPE

This is Gemini Control. We are 246 hours and 21 minutes into our mission. Gemini 7 at the present time is on its 154th revolution and is passing over the Pacific Ocean toward the Canton Island Tracking Station. According to our latest ground readouts of telemetry data, it appears that the Command Pilot is asleep. However, Pilot Jim Lovell is still awake. Our latest report also which came from the Coastal Sentry Tracking Ship, reports that all systems on the Gemini 7 are GO. We have a report from the Cape that they have started loading oxidizer in the launch vehicle and this activity started shortly after 8:00 p.m. e.s.t. This is Gemini Control, 246 hours and 23 minutes into the mission of Gemini 7.

END OF TAPE

This is Gemini Control. We are now at 247 hours and 20 minutes into the flight of Gemini 7. Gemini 7 at this time is on its 155th revolution around the earth and is now passing over the Continent of Africa. According to the ground data, a readout from the Gemini 7, the crew probably is asleep. We have a report here from the U.S. Air Force concerning the search for Dr. and Mrs. Randolph Lovelace, he being the Director of Space Medicine of the Office of Manned Space Flight, of National Aeronautics and Space Administration in Washington, D.C. He was reported missing Sunday, or Monday after a flight Sunday noon from Aspen, Colorado to Albuquerque in a private charter plane. The report follows: Poor weather today hampered the search efforts of military and civilian aircraft operating out of Peterson Field, Colorado Springs, Colorado, and Albuquerque, New Mexico. Search in the Aspen, Colorado area was also hampered by 8 feet of snow that has fallen since the aircraft, carrying Dr. and Mrs. Lovelace took off from Aspen Sunday. Fog, which may lift by mid-morning, is forecast for Wednesday in the Aspen area. Air-rescue service aircraft now at Peterson Field. There are 6 air-rescue service aircraft at Peterson Field, 15 Colorado Civil Air Patrol aircraft from the Colorado Springs area, 9 New Mexico Civil Air Patrol from Albuquerque, and 9 aircraft of the Cutter Flying Service, Aspen. We'll resume the search as soon as weather permits. The efforts of more than 100 persons including pilots, air crews, and 2 ground teams, are being coordinated from Peterson Field, Search Headquarters. by Lt. Col. W. A. Ryan of Air Rescue Services, Central Air Rescue Center Richards - uh, Richard Gabour, Air Force Space, Missouri. Wednesday's search will be concentrated southeast of Aspen, where a pilot skiing at the 10,000-ft level reported seeing the brown and white Beech aircraft 95 flying east through Independence Pass on Sunday at 12:40 p.m. mountain time. That report from the U.S. Air Force, which is heading the search for Dr. and Mrs. Randolph Lovelace of NASA. This is Gemini Control. We are 247 hours and 23 minutes into the mission of Gemini 7.

END OF TAPE

This is Gemini Control. We are now 248 hours and 20 minutes into the mission of Gemini 7. At the present time Gemini 7 is passing over the Pacific and very shortly will end its 155th revolution and begin the 156th. Reports from our ground tracking station tell us that all systems about the spacecraft are in a GO condition and our flight surgeon, earlier, reported that the flight crew is in excellent physical condition. This is Gemini Control, 248 hours and 20 minutes into the Gemini 7 mission.

END OF TAPE

This is Gemini Control. We are now at 249 hours and 20 minutes into the mission of Gemini 7. At the present time Gemini 7 is on its 156th revolution over the earth and is flying over the Coastal Sentry tracking ship. Here in the Mission Control Center, our White Team of flight controllers are preparing to move out and their places will be taken by the Blue Team headed by John Hodge, flight director for the Blue Team. According to the ground data the readouts from the spacecraft the pilot appears to be asleep, the command pilot is either restless or awake. And this report came from the Rose Knot tracking ship at the beginning of this revolution. We are now 249 hours and 21 minutes into the mission. This is Gemini Control.

END OF TAPE

This is Gemini Control. Gemini 7 has been in space now for 251 hours and 20 minutes and is now crossing the South Pacific on its 157th revolution. We are waiting for word from the Cape soon that the countdown has begun. That should be 1:12 a.m. this morning Central time, for launch at 7:37 this morning Central Standard Time, at Cape Kennedy of the Gemini spacecraft. And we are hopeful that on this day we'll have a rendezvous between Gemini 6 and Gemini 7. The weather at the Cape is predicted to have scattered clouds below 10,000 feet; with light fog; winds variable at 5 knots for the southeast. The loading of fuel aboard the Gemini launch vehicle, the Titan, was completed at 11:32 Eastern Standard Time, last night at the Cape. And the Gemini 6 crew, astronauts Schirra and Stafford are scheduled to get up about 3 a.m. Eastern time, at the Cape. The Gemini 7 crew is due to awake in their spacecraft somewhere in the Cape area about an hour later. So at 251 hours and 21 minutes into the flight of Gemini 7,this is Gemini Control.

END OF TAPE

This is Gemini Control. The countdown on the Gemini 6 launch vehicle - on the Gemini 6 spacecraft has begun. We are at T minus 358 minutes and 23 seconds. The Gemini 7 spacecraft has been in space for 251 hours and 43 minutes. This is Gemini Control.

END OF TAPE

This is Gemini Control. At 252 hours and 20 minutes into the flight of Gemini 7, and we are 321 minutes and 51 seconds into the countdown of Gemini 6, down at Cape Kennedy. Right now Gemini 7 is passing over India on a sweep down toward Australia on its 158th revolution. It is day time over India. The spacecraft countdown at Cape Kennedy is underway. It has been underway for 40 minutes. This is Gemini Control

END OF TAPE

This is Gemini Control. At 253 hours and 20 minutes into the flight of Gemini 7. The spacecraft is now passing over the Grand Turk Tracking Station having just swept down by the southern part of the United States on its 158th revolution. The countdown on Gemini 6 at Cape Kennedy is at minus 261 minutes and counting. The schedule for the countdown at the Cape is to wake up the crew in about 12 or 15 minutes. They should have breakfast. At about 4:37 a.m. e.s.t., they will go to the trailer to suit up about an hour after that and go to the spacecraft at about 6:30 eastern standard time for a scheduled launch at 8:37 a.m. e.s.t. The countdown on the spacecraft began earlier this morning. This countdown on the launch vehicle is scheduled to begin in about 20 minutes. Weather at the Cape is very mild, with 5000-ft 3 to 5 tenths cloud cover - scattered cloud cover. Wind 5 to 10 knots from the southeast with some ground fog predicted. At 253 hours and 21 minutes into the flight of Gemini 7, and just 260 minutes into - on the countdown of Gemini 6, this is Gemini Control.

END OF TAPE

This is Gemini Control, at 254 hours and 20 minutes into the flight of Gemini 7. The countdown on Gemini 6 is progressing. We are now at minus 202 minutes and counting at the Cape. The crew, astronaut Wally Schirra, astronaut Tom Stafford, were awoke at 4:02 a.m. Eastern Standard Time, on schedule, and have since had their physical examinations and their breakfast. The Gemini 7 spacecraft is passing over the east coast of Australia and the crew aboard the Gemini 7 spacecraft should be waking up in about 20 minutes on their pass across Cape Kennedy. So at 254 hours and 20 minutes of the flight of Gemini 7 and within 200 minutes on the countdown of Gemini 6, this is Gemini Control.

END OF TAPE

This is Gemini Launch Control at 2 minus 175 minutes and 56 seconds and counting. Right on time with our count time at the present time in preparation for Gemini 6 launch this morning. Astronauts Wally Schirra and Tom Stafford, the prime pilots for the mission, just departed from the crew quarters , at the Kennedy Space Centers, Manned Spacecraft Operations building, just several minutes ago. The two pilots were awakened about an hour and 15 minutes ago, we'd put it at about 4:00 a.m. Eastern Standard Time. They went down the hall, at the crew quarters to take their medical exam. They were described by Dr. Dwayne Catterson who gave the exam as being in excellent physical condition. Dr. Catterson also remarked that they are quite relaxed and confident. On the way back down the hall to the crew quarters from the physical, it became more apparent to the people who were watching them go by that the crewmen were in obvious good spirits. They joked about the early hour they had to get up this morning and seemed to feel very good. The astronauts sat down to breakfast with just one guest this morning and that was Alan Shepard, the Chief of the Astronauts Office, at the Manned Spacecraft Center. The breakfast was a regular one. It consisted of Filet Mignon, Eggs, Toast, Juice and Coffee. Both pilots dressed in sport shirts and slacks has departed the crew quarters at the Kennedy Space Center on Merritt Island and are on their way to the suitup trailer located at Launch Complex 16 adjacent to Launch Pad 19 where we have Gemini 6 spacecraft and launch vehicle standing ready. All looking well from here at the Control Center at the present time. We are at T minus 174 minutes and 7 seven seconds and counting. This is Gemini Launch Control.

END OF TAPE

This is Gemini Control at 255 hours and 15 minutes into the flight of Gemini 7. Gemini 7 is now crossing over the west coast of Africa and during the pass across the United States there was some conversation between the pilot, Jim Lovell and the U.S. Stations. Let's play that tape for you now.

S/C This 7. Go ahead.

CAP COM Gemini 7, Houston.

Gemini 7, Houston.

S/C Roger.

CAP COM Gemini 7, Houston. I have some instructions for you after which I'll pass you to Surgeon for food, water, and sleep report, only. Please place your DCS power circuit breaker off, please confirm each one. C-band adapter beacon switch continuous.

S/C Houston, this is 7. Cannot read. Say again, please.

CAP COM Uh, Roger. Place your DCS power circuit breaker OFF.

S/C Roger, it's off.

CAP COM C-band adapter beacon switch continuous.

S/C Continuous.

CAP COM Stand-by TM switch real-time.

S/C Say again the last.

CAP COM Stand-by TM switch real-time.

S/C Roger. Stand-by real-time.

CAP COM ACQ BEACON circuit breaker OFF.

S/C ACQ beacon circuit breaker coming OFF.

CAP COM Real-time transmitter circuit breaker OFF.

S/C Real-time transmitter circuit breaker OFF.

CAP COM And HF antenna in the retract position.

I'll now pass you to Surgeon for a food, water, and sleep report, only.

SURGEON Gemini 7, Houston Surgeon, do you read me?

Gemini 7, Houston Surgeon standing by for your sleep report.

S/C Roger . . . .

Gemini 7. We've had about 5 hours of sleep apiece. I'd say light to moderate.

SURGEON Roger, Gemini 7. Copy 5 hours each, light to moderate.

Your food report now. Supper last night and breakfast - oh, you will not have had breakfast yet. Supper report last night will do.

S/C Supper was Day 9, Meal C.

SURGEON Did you eat all items?

S/C Roger. Ate all items. Pilot's had 709 ounces of water, and the Command Pilot's had 876 ounces of water.

SURGEON Roger, I copied that. May I have your gun reading?

S/C Roger. Gun's reading 3798.

SURGEON Copy 3798.

Gemini 7, Houston Surgeon. How was your comfort last night?

S/C It was a little warm when we went to bed. It got very comfortable there towards the morning.

SURGEON Did you say it was a little warm at the time you were going to sleep and then it got more comfortable?

S/C Roger.

SURGEON Roger, I copied that.

We'll get the Canary Surgeon to pick up your breakfast report later on. Houston Surgeon out.

CAP COM Gemini 7, Houston. I have a flight plan update for you.

S/C Roger, stand by.

Go ahead, Houston.

CAP COM Item node: Time 256 15 48. Rev 160 - 132.3 degrees west. Right ascension 08 hours 31 minutes 58 seconds. Flight plan time line update: Change 256 00 00 to 256 10 00. Time - 255 05 45. Crew status report Command Pilot at Canary Islands. Time 255 41 41 32. PLA update and go--no-go at Carnarvon. Time 256 41 23. Crew status report, Pilot at Canary Islands. Items D-4/ D-7: 258 05 05. Sequence 430. Mode: 02. Pitch - 30 degrees down. Yaw - 3 degrees right. Make measurement on GT-6 launch. Take S6 photo on weather at Cape. Nominal GT-6 launch is 258 07 23. Did you read that, 7?

S/C Roger, we got most of it.

CAP COM Roger. May I have an OAMS prop readout?

S/C 16 percent. 16 percent.

CAP COM Roger. 16 percent.

Did you have any tumble rates when you awakened this morning?

S/C Tumbling slowly.

CAP COM Be advised your present orbit is 159.2 by 163.3 and we can give you a later update on that.

S/C Thank you.

CAP COM The progress on the pad is going well. They're 10 to 15 minutes ahead of the count. The crew has eaten, had their medical, and left the MSO building and everything appears to be fine. However, the weather has been a little bit marginal. The 0500 eastern weather was high thin broken and 7 miles. The

temperature was 67, dew point 66 and the wind was south at 6 knots with patches of ground fog south and west. But that looks better than it's looked most of the night and we're all pretty hopeful here.

Did you get your HF antenna in the retract position?

S/C Roger.

CAP COM Okay. Well, we'll leave you alone for now. The Blue Team wishes you the very best for a very successful day today.

S/C Thank you.

Gemini Control Houston here. That was a pass across the United States. Since then the Gemini 7 spacecraft has gone over the Canary Islands and we have a tape of the conversation between the crew and the Canary Islands Station. We'll play that tape for you now.

CYI Gemini 7, Canary.

S/C Go ahead, Canary, this is 7 here.

CYI Okay. During this pass we'll like to get a fuel-cell purge done and also a crew status report on the Command Pilot. We're still getting an invalid oral count.

S/C Roger. Stand by one.

CYI Okay. We want a normal purge of section 1 with crossover switch ON. And then we'll get the fuel-cell control no. 2 circuit breaker and put it on. Do a normal purge of section 2. Fuel-cell control no. 2 circuit breaker off and the crossover switch off. Okay?

S/C Roger. Understand. And blood pressure's coming down on the Command Pilot and also the purge.

CYI Rog.

CYI Complete the ..... Canary has LOS C-band track.

HOUSTON Roger, Canaries.

SURGEON ..... your systems are ..... and you have a valid oral temperature.

S/C Ready for the exercise?

SURGEON Negative.

S/C Rog.

SURGEON Roger. You'll begin your exercise on your mark.

S/C Mark.

SURGEON (garbled)

Valid.post-exercise blood pressure. Thank you.

Canary Surgeon out.

S/C Roger.

Purge complete, Canaries.

CYI Okay, fine. Crossover switch OFF and fuel-cell control no. 2 circuit breaker OFF.

S/C Roger, heads up.

CYI Okay. And turn off the biomed recorder no. 2, please.

S/C Roger.

CYI Okay. And we'd like some onboard readouts, ECS O_2 quantity and pressure.

S/C ECS O_2 is 830 psi and 66 percent.

CYI I have the psi pressure.

S/C 830.

CYI Ok, thank you, and the quantity read switch to fuel-cell O_2 please.

S/C You want the readout?

CYI Please.

S/C 760 psi and 49 percent.

CYI Roger.

Okay. Fuel-cell H_2. Pressure and quantity.

S/C 500 psi and 55 percent.

CYI Roger, copy. Quantity read switch OFF, please.

Okay, 7. We have nothing else for you. We'll be standing by. All your systems are GO on the ground. Everything's looking real good.

S/C Thanks, Canaries.

At 255 hours and 25 minutes into the flight of Gemini 7, now beginning its cross across the Indian Ocean. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control Houston. The Mission Control Center here reports that all systems in the Control Center are "go." Flight Director John Hodge reports that the world network is"green" and "go." Gemini 7 in its one hundred and sixtieth revolution, has been in space for 255 hours and 31 minutes and is crossing over the Indian Ocean. It is "go" and for the status of Gemini 6, we take you to Jack King at Gemini Launch Control-Cape Kennedy.

King This is Gemini Launch Control at the Cape. We're at T-130 minutes and 24 seconds and counting. All looking well on the Gemini 6 countdown at the present time. As we were on Sunday at least as far as the countdown was concerned, once again we're having an excellent countdown this morning. We're from 10 to 20 minutes ahead on certain events during the day's preparations for the launch vehicle and the spacecraft. The backup pilots for the Gemini 6 flight, Astronauts Gus Grissom and John Young, are aboard the Gemini 6 spacecraft making some final checks. They will report to the prime pilots, Wally Schirra and Tom Stafford, when they arrive at the White Room at Launch Complex 19 some 25 to 30 minutes from this time. To repeat some of the activities that have gone on this morning -- Astronauts Schirra and Stafford were awakened at about 4:00 a.m. EST. They went down and took

their physical. They were pronounced by their doctor, Duane Catterson, as being in excellent physical condition. Also described by Dr. Catterson as being relaxed and confident. This clearly became evident as Schirra and Stafford returned to the crew quarters. They quipped as they went along the hallway to some of the people who are working in the area, complaining in a joking fashion about having to get up a little earlier this morning. It was obvious that they were in good spirits. They did get up about an hour and a half earlier today compared to last Sunday on our previous effort for Gemini 6. Our weather conditions this morning call for scattered clouds in the launch area with winds three to five knots, sea state off the Cape of one to two feet. We expect a temperature at launch time of about 65°, and our visibility is expected to be about five miles, but we're going to wait for dawn -- we're going to wait for the sun to come up to take a good look at our situation. We don't here anticipate a problem, let me emphasize that, but we will take a look when the sun comes up to see if whether we have a haze condition or not. It is not expected to be a problem at this time. For the rest of the orbital track, things look generally acceptable. We will cover them in more detail later on in the reports this morning. Once again, all looking good on the count-down at the present time -- now T-128 minutes, 7 seconds and counting. This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control at the Cape. Our count continues to proceed well. We're at T-120 minutes and 53 seconds and counting. In the Gemini 6 spacecraft at Launch Complex 19, the backup pilots for the 6 flight, Astronauts Gus Grissom and John Young, continue their checkouts in the spacecraft. Prime pilots, Wally Schirra and Tom Stafford, are now in the suit trailer at the adjacent complex, Launch Complex 16, and they will be getting their space suits shortly. All is looking good at the present time for this morning's flight. Launch time -- we will have this reverified by the Flight Director Chris Kraft later in the count, but we're aiming for an ignition -- that is T-0 at 8:37 and 23 seconds a.m. EST. This will be as the Gemini 7 spacecraft is making its one hundred and sixty-second revolution. Once again to repeat that time -- the liftoff time is 8:37 and 23 seconds a.m. EST. As we had on our previous attempt on Sunday for Gemini 6, there will be a 25-minute hold. We have 25 minutes of hold time. We have not used any of it thus far because we have had an excellent countdown. If we don't use it prior to T-3 minutes -- the three-minute mark in the count, we will hold at that time for 25 minutes and then proceed on to the exact liftoff time we are seeking. All looking well at Launch Complex 19 at the present time. We are now at T-119 minutes, 22 seconds

and couting. This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control at T minus 91 minutes and counting. T minus 91, all going well on the Gemini 6 countdown. Prime pilots, Wally Schirra and Tom Stafford are now aboard the spacecraft. They went over the hatch some 5 minutes ago. We had it marked at 35 minutes past the hour when they boarded spacecraft 6. They have now hooked into their suit circuit and we are about to start a series of preliminary checks with both pilots. This includes overall communications and checking out the blood pressure. Getting some blood pressure readings right at the start to make sure they are properly hooked in. Then we will proceed following that to make a complete series of checks, final status checks on their switches and the various dials in the spacecraft as the countdown proceeds down to a zero. We have the same situation as we did on Sunday with a 25 minute builtin hold. We have not used any of this at the present time. We had reported a launch time earlier, this time has been changed slightly and it is possible it will be changed again before we get to zero in the countdown. The present lift-off time they were aiming for was 8:37 and 19 seconds -- correction, the present ignition time we are looking for is 8:37 and 19 seconds a.m. eastern standard time. The final lift-off time will be determined on notification from the Flight Director at the 18-minute mark in the countdown. This will be the final alert for the pad crews to give them the exact time for launch, of course, this is in connection with the orbit of Gemini 7 which will be coming around on it 162nd orbit at launch time of Gemini 6. All still going well with our count at the present time, now 89 minutes and 6 seconds and counting. This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control. We're at T-102 minutes and 25 seconds and counting. Right on time as far as the countdown is concerned and right on time as far as the departure of the prime pilots, Wally Schirra and Tom Stafford, from their suit trailer at Launch Complex 16 proceeding toward the pad. They left the trailer about one and a half minutes ago and now are proceeding in the van toward Launch Complex 19. The crew is standing by in the White Room. There's a little sign on the spacecraft that says, "Good look, from the second shift," and a drawn hand on a small chart. The hand, of course, just symbolizes a handshake. Once again, the sign says, "Good luck, from the second shift." This apparently is the crew that worked up until midnight last night. They're extending their greetings to the prime pilots because they will not be on the job when the pilots come aboard. We expect that Schirra and Stafford will be arriving at Launch Complex 19 shortly. They will go up immediately into the elevator into the White Room, and at beginning a brief status check from the technical crew in the White Room, including the backup pilots, Gus Grissom and John Young. Gus and John who, of course, made their mission on Gemini 3 -- the first manned Gemini flight, have been spending quite a bit of time in the spacecraft this morning. They boarded the spacecraft right at the start of the power-up of the spacecraft

at about 2:12 a.m. this morning, and have been in it since that time except for about 30 to 40 minutes when they had to leave the pad earlier this morning when the launch vehicle was pressurized. The transfer van now has arrived at Launch Complex 19. Astronauts Schirra and Stafford now stepping out of the truck, and they'll proceed up the ramp. There were a few handshakes as they go along. Now proceeding up the ramp, and it's expected in a matter of a minute or so they will be up in the White Room. They departed their crew quarters at the Kennedy Space Center, Manned Spacecraft Operations Building at about 5:12 a.m. this morning, and have spent the remainder of the time in the trailer at Launch Complex 16. The two pilots now are in the elevator, and they are going up to the White Room. They will spend, as they reported, several minutes up there to get a status report before boarding the spacecraft. We will have a further report on their progress. The count is now T-99 minutes and 46 seconds and counting. This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control, T minus 155 seconds and counting. T minus 110 and 50 seconds at the present and counting. All looking well on the Gemini 6 preparations at the present time. We are expecting some 5 to 6 minutes from now for the prime pilots, Wally Schirra and Tom Stafford to step out of the suit trailer at Launch Complex 16 and the proceed to 19, up into the White Room in the Gemini 6 spacecraft. Backup pilots, Gus Grissom and John Young, have just completed a series of suit circuit purge tests within the spacecraft. This is checking out the system which will be used for the spacesuits for astronauts Schirra and Stafford. It was reported that this test was completely successful and from a look at the activities in the White Room at the present time the crews are standing by waiting for the arrival of Schirra and Stafford as I said some 5 to 6 minutes from now. During prebreakfast this morning after the prime pilots were awaken at 4:00 a.m. Eastern Standard Time and took their physical, they had breakfast. The time was about 4:35 a.m. Eastern Standard Time when they started. They just had one guest this morning and that was Alan Shepard who is Chief of the Astronaut Office and who has been working with this crew throughout all the preparations for the 6 mission. Breakfast consisted of - well it was a regular astronaut breakfast of filet mignon, eggs, toast, juice and coffee. They are now in Complex 16. We are going to await their departure coming up now some 4 minutes from now. All still looking well on the countdown. We are still ahead on some of them. The countdown proceeding normally at the present time. Now T minus 109 minutes 7 seconds and counting. This is Gemini Launch Control.

END OF TAPE

This is Gemini Control Houston. At 256 hours and 13 minutes into the flight of Gemini 7 now crossing the South Pacific. A few moments ago the spacecraft passed the Carnarvon Tracking Station in Australia. We taped that conversation and we'll play it for you now.

CRO Gemini 7, Carnarvon Cap Com.

S/C Go ahead, Carnarvon, Gemini 7.

CRO Roger. Would you place your DCS circuit breaker ON.

S/C Roger, going on.

CRO Roger, and we're standing by for your go--no-go readings.

S/C Roger. Four main batteries are all, guess it's 23 for the first 3 and 20 for the 4th one.

Have no abnormal functions. Stack 1A reads....(Garble)...

CRO Gemini 7, Carnarvon Cap Com. Gemini 7, Carnarvon Cap Com. Do you read?

S/C Roger. Can you read?

CRO That's negative. Would you say again, please?

S/C Roge. Stand by. Okay, I'll say again. All main batteries check okay. Stack read outs 1A, 3; 1B, 3; 1C, 3; 2A, 3; 2B, 3; 2C, 5. Voltage in the main bus 26.9. RCS A, 3008; B, 2975. Left hand secondary 02, 5400; right hand secondary 02, 5300.

CRO Roger. That sounds good. It's about the same as we had on the last "go/no go". Okay, we have you go for area 178-1. We're going to update your TR clock at this time for 192-1. Transmitting TR.

S/C Have received, Carnarvon.

CRO Roger. And, we show you in sinc on the ground.

S/C Would you give us the time now, Carnarvon?

CRO Roger. We're showing 255 hours, 44 minutes 21 seconds, 22, 23, 4, 5, 6, 7.

S/C Right on it with you.

CRO Roger. When you're prepared to copy, I have a POA block update for you.

FLIGHT Get that DCS circuit breaker off.

CRO Roger, Flight.

S/C Go ahead, please.

CRO Roger. Would you turn your DCS circuit breaker off, first.

S/C Off.

CRO Roger. Thank you. Okay. Area 162-1, 257:42:18. Area 163-1, 259:17:55. Area 164-4, 262:09:24. Area 165-4, 263:44:56. Area 166-4, 265:30:54. Area 167-3, 266:37:57. Area 168-3, 268:13:25. REP 400K 21 plus 40 for all areas.

S/C We have them all, thank you.

CRO Flight, what's the ....

FLIGHT Say again.

CRO What's the weather in those areas?

FLIGHT Stand by. Weather is good in all areas.

CRO Thank you. And, the weather is good in all those areas.

S/C That's good. How about in Australia?

CRO Oh, it's real fine this morning. How's it going up there?

S/C Pretty good.

CRO Roger. Gemini 7, this is Carnarvon Cap Com. Would you stand by for our Surgeon a minute. Gemini 7, this is Carnarvon Surgeon. We lost you respiratory trace for some reason. I wounder if you could contribute anything on this on the command pilot.

/C They mentioned before they thought the amplifier was bad, and I was fooling with the.....

CRO Gemini 7, say again. I do not read.

S/C They're getting a good ECG off the same sensor; from the front sensor.

CRO Gemini 7, Carnarvon Surgeon. I did not copy. Could you repeat that for me.

S/C Roger. This was mentioned before, but they claim there's nothing wrong with the sensors; because ECG is coming off of the same sensor. They sealed the amplifier, and there's nothing I can do about it.

CRO Gemini 7, this is Carnarvon Surgeon. I understand that this has been mentioned before. We have never seen the complete loss of respiratory trace. But, if this has been mentioned before, that's fair enough. Carnarvon Surgeon out.

S/C I take it back. It's not the complete loss, but the deterioration of it that's been noticed.

CRO No. This is a loss. We don't have it.

S/C I'll play with the amplifier here and see if I can get it back for you.

CRO Gemini 7, Carnarvon Surgeon. I did not copy.

S/C I said I will fool around with the amplifier and see if I can get it back for you.

CRO Carnarvon Surgeon. Thank you very much.

FLIGHT Carnarvon, Houston Flight.

CRO Go ahead, Flight.

FLIGHT You can tell him that the crew on the Cape have a go for insertion now.

CRO Gemini 7, the crew at the Cape have a go for insertion at the present time.

S/C Roger. Thank you.

CRO And, everything is proceeding in real good shape.

S/C It's been a long wait.

CRO Yes sir. It sure has.

FLIGHT Carnarvon, Houston Flight.

CRO Go ahead, Flight.

FLIGHT It's kind of interesting there. I think we were reading it better than you. When you couldn't read.

CRO Yea. We got this messy echo in this cotton-picking Goddard loop; and, when we got rid of that, well then we were okay.

FLIGHT I see.

CRO And, we did have C-Band track during that time.

FLIGHT Roger.

This is Gemini Launch Control at the Cape. T-80 minutes and 58 seconds and counting. T-80 minutes and 58 seconds and counting. All is still looking good on our Gemini 6 count down, at the present time. Just a matter of several minutes ago, both hatches on the Gemini 6 spacecraft were closed and taunt. This is the final sequence of putting the astronauts aboard. There's Wally Shirra and Tom Stafford; and, at the present time, we're proceeding with the so called cabin purge. That is purging the complete cabin aboard the spacecraft and bring it up to 100% oxygen as far as the atmosphere is concerned inside. We have received another alert as far as our launch time is concerned. Once again, we are aiming for 8:37 and 23 seconds, a.m., Eastern Standard Time for ignition of the Gemini 6 vehicle. I'll repeat that time. 8:37 and 23 seconds, a.m., Eastern Standard Time.

Once again as we reported earlier, we will not get an exact lift off time until the 18 minute mark in the count down. Then the Flight Director, Mr. Chris Kraft, alerts the launch pad crews of the exact time that he wants to launch in connection, of course, with the Gemini 7 orbit at that time. We are proceeding along in fine manner, both as far as the launch vehicle is concerned and the spacecraft. Astronauts Shirra and Stafford have thus far been responding in a business like manner to instructions from the Test Conductor, John Comer. All is going well. Our count is now at T-79 minutes and 20 seconds and counting. This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control at the Cape -- T-73 minutes and counting. T-73 and all going well with the Gemini 6 mission at the present time. In just a matter of a minute or so, I'll give you exact time shortly, the Gemini 7 spacecraft will be coming across the Cape area on its one-hundred and sixtieth -- actually one hundred and sixty-first -- the start of its one hundred and sixty-first revolution. It is due to pass the Cape area at 30 seconds -- 37 seconds past the hour -- 37 seconds past the hour. If you'll look to the southwest about 45° above the horizon at that time, that is where the spacecraft should be with Astronauts Frank Borman and Jim Lovell aboard. I will count down for you to the hour. We're now at 59 minutes past the hour and 48 seconds. I will count you down to 7:00 a.m. EST. 5-4-3-2-1, Mark. 7:00 a.m. EST. Some 35 seconds from now Gemini 7 is due past the Cape. The next time it comes around, we hope that we will have Gemini 6 ready to join them. All going well on the count now at T-71 minutes and 46 seconds and counting. This is Gemini Launch Control.

END OF TAPE

This is Gemini Control Houston here with a squeeky mike. We are at T-60 minutes on the spacecraft 6 count and we are in a plus count of 256 hours 41 minutes on 7. As 7 swung across the States time the Blue Team Communicator, Charlie Bassett, had a conversation with the Pilots this morning and they sound their usual bright chipper selves at this early hour. Here's how that conversation went.

Guaymas — Gemini 7, Guaymas Cap Com. We have nothing special for you this pass. All systems are go on the ground. If you need anything we will be standing by.

S/C — A cool beer, Guaymas.

Guaymas — Roger, we'll see what we can do about that.

Texas — Texas has PCM solid, we got all systems go on the ground.

Cap Com — Gemini 7, Houston.

S/C — Go ahead Houston.

Cap Com — Roger, would you place your C adapter beacon switch continuous.

S/C — C-adapter beacon switch has been continuous.

Cap Com — And C-beacon circuit breaker on.

S/C — The C-beacon circuit breaker has been on.

Cap Com — Roger. Thank you. The weather at the Cape is still high thin overcast. They've got 5 miles visibility with some ground fog. You have 66 degrees temperature and 65 dew point. The wind is 210 at 2 knots. We are still optimistic. We just watched Gunner and his crew load Wally and Tom into the spacecraft and everything seems to be progressing satisfactorily.

S/C — Great.

Cap Com The lift-off remains the same at 2 58 07 23 and your orbit is still the same as our first transmission, 159.2 by 163.3.

S/C Thank you.

Cap Com I have some news here if you would like to hear it.

S/C Go ahead Charlie. We'd love to.

Cap Com Okay, first a couple of people, the search for Randy Loveless is still unsuccessful but it continues. W. Summerset Maugham suffered a stroke about 4 days ago, he's improving, but still remains in a coma. It turns out, of course, that you're still quite in the news. Fred Kelly was quoted in the Post last night. The paper quoted him as saying, "But this crew is, you'll have to admit, the two boys have been more cooperative in everything, medical experiments and otherwise, than any other crew we've had." Ed White is sitting here and he says that you just learned real well from the 4 crew. He says you are a made over 4 crew.

S/C 14 days seems a lot shorter down there than it does up here. I'll bet you that.

Cap Com I'll bet you're right. The headline for one news article referencing the rendezvous maneuvers says - is called 10 tense minutes, four lonely men in space. What do you think about that? The Soviet Union has announced that it would test a varient of a system of landing space vehicles and warned ships and planes away from an area in the Pacific Ocean where it said some elements of the booster rocket may fall. That area is about 500 miles south of the Aleutians and 2000 miles east of Japan and clear of your orbit. These tests will begin Thursday and end around June 1. That's

about all I have right now. Ed's here and would like to say hello.

S/C Roger.

CM3 This is old CM3 talking.

S/C How are you doing?

CM3 Real fine. I have a little report from your ground crews, they are all in real good shape. I had a nice dinner with Marilyn and Susan last night. Everything is going fine.

S/C Good, good. Thank you.

CM3 Roger, the numbers on the board have 75 hours remaining. It looks pretty little now. You can do that standing on your head.

S/C That's what we doing, you're right.

CM3 Right.

S/C I'll tell you one thing, you can tell this spacecraft is a fighter pilot's aircraft. It always rolls to the left.

CM3 Very good.

S/C If we only had those 55 minute flights, we'd be in a lot better shape.

CM3 Okay. Jim, this is CM3. I've got a special message for you.

S/C Roger, Ed.

CM3 Ho, ho, ho.

S/C Righto. I have one for you too.

CM3 Go.

S/C Be it ever so humble, there's no place like home.

CM3 Got you.

This is Gemini Control. The backup command pilot for this mission who has been in the Mission Control Center every morning checking the flight plan for the day and spending some 4 to 6 hours here. That concluded the conversation on the Stateside pass and now let's go down to the Cape and find out how 6 is doing.

This is Gemini Launch Control at the Cape. We are now at T-65 minutes 32 seconds and counting. All still going well on Gemini 6. It's been some 2 hours and a quarter now since the prime pilots Wally Schirra and Tom Stafford were awakened in the crew quarters at the Kennedy Space Centers Manned Spacecraft Operations Building. They are hard at work in the spacecraft right now. Wally has just completed a series of switch checks going over his switch list in the spacecraft ensuring that all the dials and all the switches are in their proper locations. His Pilot, Tom Stafford, is proceeding to do the same thing at the present time. We are also preparing to break up the White Room, that is, have the final crew of technicians at the White Room level, the spacecraft level, depart. Most of them are leaving at this time. There are just several on hand making some final checks around the spacecraft. Shortly after they do leave, we will break up the White Room, that is, raise the floors that surround the spacecraft in preparation for lowering the erector later in the count, some 20 minutes from now. With the launch vehicle we are going through some final guidance at the present time, sending steering commands from the guidance system to the engines and ensuring that the engines will gimbal, that is, that they will respond in yaw or in pitch to the commands from the guidance system. All going well in our countdown. We still have that 25 minute hold to encounter. We have not had to use any of it at the present time, if we don't have to use it, after the T-3 minute mark, we will hold at T-3 minutes, hold 25 minutes at that time, aiming toward the proper lift-off. All going well on the Gemini 6 preparations at the present time, T-53 minutes 50 seconds and still counting . This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control -- T-50 minutes, 57 seconds and counting on our preparations for Gemini 6. All still going well as it has all this morning since the start of the countdown when we picked up with the spacecraft shortly after 2:00 a.m. this morning. Astronauts Wally Schirra and Tom Stafford have completed their check list. During the last 10 to 15 minutes, they have been checking all the switches and dials in the spacecraft and responding in a businesslike manner to the call from the test conductor as he requests that they check each item. All is still looking well. We have also completed our guidance checks with the launch vehicle, and we are proceeding with the count. Just before we did pick up on the checklist with the prime pilot and the pilot, Wally Schirra did ask the blockhouse how the weather situation looked. He was told that it looked good, and Wally responded that it looked good to him also when he came aboard earlier this morning. We're now at T-50 minutes and counting. All looking well. This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control at the Cape -- T-43 minutes, 31 seconds and counting. The 138-foot erector at Launch Complex 19 is being lowered at the present time. The prime pilot, Wally Schirra, reported just at the first movement that he felt the quiver as the erector started to come down. He also commented as the erector moved away a slight bit, that there was a whole bunch of blue up there. All is still going well on our count at the present. The erector is on the way down. It will leave the Gemini 6 spacecraft and launch vehicle ready for launch in the terminal phases of the count. We still have that 25-minute hold that will be used up at the 3-minute mark if it is not used prior to that time. All going well at Launch Complex 19 at T-42 minutes, 45 seconds and counting. This is Gemini Launch Control.

END OF TAPE

.... and counting. All still proceeding excellently on the Gemini 6 countdown at the present time. The blockhouse door has been sealed -- that is the blockhouse at Launch Complex 19. Most of the functions from here on down -- a great majority of them -- as far as the launch vehicle is concerned will be on the Automatic Sequencer in the blockhouse. There are several manual functions still to be conducted coming down to the zero mark, but the majority will be on an Automatic Sequence from here on down. At the present time in the spacecraft, Astronauts Wally Schirra and Tom Stafford are making some preliminary readouts on the spacecraft propulsion system. That is the Orbit Attitude and Maneuvering System, which will be tested some ten minutes from now. We'll have a brief static fire of the 25-pound thrusters on the spacecraft ..... preliminary readouts on it now. To recap on the weather, we have good weather conditions here at the Cape with scattered clouds. The visibility is probably up to about seven miles now in the Cape area. Winds three to five knots, and the sea stood at one to two feet off the Cape. Around the rest of the global track, the weather is satisfactory. In the Atlantic, it is considered satisfactory. We have some strong winds in a samll area in the Central Atlantic and rough seas, but they're not to have any effect on the launch. The mid-Pacific -- we

have quite a bit of wind out there, but once again as being acceptable. In the northern section of the mid-Pacific, we're at 20 knot winds and 5-foot seas. In the southern area of the mid-Pacific, we have winds up to 25 to 30 knots and 8-foot seas. It's good and rough, but acceptable. The skies in that area are partly cloudy. In the west Pacific landing area -- a possible landing area -- partly cloudy conditions, winds about 15 knots and 5-foot seas. All looking well on the countdown at the present time. We are still aiming for a liftoff time of 8:37 and 23 seconds a.m. EST. Correct that -- that's the T-0 time -- the ignition time. 8:37 and 23 seconds a.m. EST. We still have 25 minutes of hold time to use up if we do not need it until the T-3 minute mark in the count -- a 25-minute hold will be declared at that time. It will be resumed leading up to the launch time that I just announced. This is Gemini Launch Control -- T-28 minutes and 25 seconds and counting.

END OF TAPE

Gemini Control, Houston, here at 257 hours, 21 minutes into the flight of 7. We're still looking good here on the 7 mission. Carnarvon has just established contact with 7. And, we should have about a 7 to 8 minute pass there. Meanwhile, over on 6 around the range, one item is down this morning. At Eglund, they have a radar which is inoperative. It is not a mandatory item for launch. It is a highly desireable item. It's an FBS 16 radar than can skin track, anything that passes its way. It is even more a highly desireable item before the re-entry phase. We feel right sure that it'll be fixed by the time either one of the spacecraft gets ready for re-entry. Our 7 orbit this morning is 160 by 163, a very acceptable orbit. The limits on our 7 orbit range from a perigee as little as 102 to an apogee of 215. That is we would go ahead and launch 6 if 7 were in any orbit within those limits. It gets progressively more difficult to catch the vehicle as the orbit gets more eliptical. However, this one is considered quite circular and quite acceptable. The explanation of the 7 orbit to the Equator is 28.9 degrees. And, now for a more definitive report on Spacecraft 6, let's switch to the Cape.

Gemini Launch Control at the Cape. We're now at T-19 minutes, 16 seconds and counting. Our count down still continues to proceed excellently. We have just completed our tests of the spacecraft propulsion system and it was reported as a good test. During this test, as we announced earlier, the 25 pound thrusters are on the base of the Gemini 6 Spacecraft are fired in $1\frac{1}{2}$ second bursts. We went around the spacecraft in a clockwise fashion and all of our thrusters responded. We had a good test, and we are now proceeding with the count. Once again, we still have that 25 minute hold which will come in at the T-3 minute mark, if it is not used prior to that time. We received a weather report from the command pilot in the spacecraft, Wally Shirra, for the benefit of the people in the block house and for the benefit of the people here at Mission Control. I passed the word that as he

looked up through his spacecraft window, he saw some cirrus clouds, about ten cirrus he reports, and also a good patch of blue up there. The weatherman here in Mission Control confirms that the weather should be acceptable for a lift off. We are still in good condition coming up on 18 minutes and 6 seconds and counting, but still with that 25 minute hold coming up later in the count. This is Gemini Launch Control.

END OF TAPE

CYI Gemini 7, Canary Cap Com, we are standing by for your blood pressure.

S/C Roger, Canary, coming down.

CYI ...(garbled)... Gemini 7, your cuff is full scale. Blood pressure is valid, standing by for an exercise.

S/C Roger, blood....

CYI Your cuff is full scale. Gemini 7 would you..... (garbled)... full scale. You've got the times and everything else. Okay, I'll read it down then. Command Pilot 82 92 76 80. Gemini 7 your blood pressure is valid. We would like to get a report on the meal you had for breakfast this morning, please.

S/C Meal was day 9, Meal A.

CYI Roger, that's for both crewmen. Were there any unconsumed items?

S/C Roger, both crewmen and no unconsumed items.

CYI Roger, could we get an update on your water intake?

S/C Correction on that, the meal we just consumed was day 12, Meal A.

CYI Roger, understand, day 12 Meal A.

S/C Coming up with the water. Command Pilot 873 of the water. Stand by for pilot, 728 for the pilot.

CYI SURGEON Roger, could you give me a water gun count, please?

S/C Roger. 38 71 in the water gun.

CYI SURGEON Roger, 38 71. That's all we have for you. Go back to Cap Com Canary Surgeon out. Thank you.

CYI Gemini 7, this is Canary Cap Com, we have nothing for you. Everything looks good on the ground. Following this pass we'll be reconfiguring for Gemini 6 and we'll see four of you on the next time.

S/C Roger. It will be getting crowded up here.

CYI We think that's terrific.

HOU Gemini 7, Houston how do you read?

S/C Hello Houston, how are you?

HOU Just fine, on your next pass just like the last time, we will not be talking to you. However, we will be listening if you have any questions or comments. We will be monitoring both you and six.

S/C Thank you.

HOU Tried to look for you this morning, but it was overcast and raining.

S/C Looks beautiful up here.

HOU Kano local, Kano LOS.

END OF TAPE

The is Gemini Launch Control at the Cape just under T-11 minutes and counting on the Gemini 6 countdown. All's still going well. We're some 7 or 8 minutes away from the T-3 minute mark when we will hold for 25 minutes aiming for our liftoff time. We received word a short while ago that the Mission Director for Flight Operations, Mr. Chris Kraft, Chris notified Mr. Frank Kerry, the chief test conductor from Martin for the launch vehicle, that he, Mr. Kraft, wants the launch at 8:37 and 23 seconds a.m. EST. That would be the time for ignition and some 3.4 seconds later we would be looking for liftoff. This final information and the data concerned with the Gemini 7 spacecraft will be fed to the guidance system when we resume the count at T-3 following the hold. We're now at T-10 minutes. All looking good. We'll now have some more information on the status of Gemini 7, and we switch you to the Mission Control Center in Houston.

Houston he[r] with the spacecraft over Australia. The 7 pilots got a quick update on the status of 6 and additional discussion as the[y] sailed over the Carnarvon station. That conversation went like this:

CRO Carnarvon has C-Band track.

AFD Roger, Carnarvon, C-Band track.

Carnarvon, AFD.

CRO Roger, AFD.

AFD You can tell them the cluster firings went well.

CRO Gemini 7, Carnarvon Cap Com. Your thruster firings went very good on GT-6.

S/C Rog. That sounds good.

CRO Roger. It looks like you'll have company before long.

S/C I hope the booster firings do the same.

CRO Oh, Rogggger.

AFD ..., you can tell him we confirm all dust covers removed.

CRO Confirm all what?

AFD All dust covers removed.

CRO Flight advises that they confirm all dust covers removed.

S/C Good.

CRO C-Band LOS.

AFD Roger, Carnarvon, C-Band LOS.

CRO And we're still holding TM in over the hill.

AFD OK.

CRO Now it looks like final LOS.

AFD OK, Carnarvon, we hope you get two the next pass.

CRO Roger, so do we.

END OF TAPE

This is Gemini Launch Control. We are at T-3 minutes and holding. The hold was called just as we came on the air. T-3 minutes and holding, the hold is expected to last for 25 minutes leading up to an ignition time of the Gemini launch vehicle at 8:37 and 23 seconds a.m. eastern standard time. Some 3.4 seconds after ignition we will have lift-off. We have just completed a whole series of final status checks in the countdown in which all elements report in on their status, both in the blockhouse and in the Mission Control Centers both here at the Cape and the Mission Control Center in Houston. All elements reported go. When the Command Pilot, whose designated crewman 1, came in to report, Wally Schirra said, "For the third time, GO." We are at T-3 minutes and holding. This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control at the Cape at 18 minutes past the hour. We are still at T-3 minutes and holding on the Gemini 6 mission and we have about 16 minutes left on this hold prior to resuming the count at T-3 minutes leading up to a lift-off time of 8:37 and 26 seconds a.m. eastern standard time. All go at the Cape. Also at the present time, the Gemini 7 spacecraft is coming across the Pacific, it is southeast of Hawaii. All conditions still looking good. It's been rather quiet as far as the communications have been concerned over the last few minutes as the crewmen in the blockhouse continue to monitor their consoles and the Pilot Wally Schirra, Command Pilot, and Pilot Tom Stafford do the same in the spacecraft. All still looking good at the present time for Gemini 6. This is Gemini Launch Control holding at T-3 minutes.

END OF TAPE

This is Gemini Control at the Cape. Still in the planned hold at T-3 minutes. The hold has now lasted 17 minutes. We have about 8 minutes to go before resuming the count in the Gemini 6 mission. All is still looking very well at the present time. It's been rather quiet as far as communications are concerned of the last 5 minutes or so. As the various crewmen in the block house and command pilot and pilot in the spacecraft keep their eyes on the switches and dials and on the various consoles, other than the stove, looking good. To recap briefly this morning, we picked up the count on the spacecraft at 2:12 a.m. Eastern Standard Time; and with the launch vehicle two hours later. The pilots were awakened at their crew quarters at the Kennedy Space Center in Merritt Island at about 4:00 a.m. They took their medical exam and were pronounced in excellent physical condition. Also, as relaxed and confident by their physician, Dr. Duane Catterson. Breakfast started at the crew quarters with a menu of Filet Minon, eggs, juice, toast, and coffee. They then proceeded to the trailer at Launch Complex 16, suited up, and then came to the Pad. All is still looking well. We are still holding at T-3 minutes. This is Gemini Launch Control.

END OF TAPE

Gemini Control Houston here, 258 hours, one minute into the flight of 7. We are still in our minus three minute hold of 6. Assuming a 37 minute 23 seconds liftoff on 6, we are now predicting that rendezvous would take place at five hours, 48 minutes, and 51 seconds later. This would be in an area northwest of Guam, over the Marianna Islands. Seven at this time is swinging across the states, and we've heard very little conversation there, but let's check and see if we are getting any. I'm advise that there has been none, we really expect none in this pass across the states. The crew will, has the pointing angles and will watch very carefully for that 6 liftoff. They saw it the other day. They also saw the shutdown. This is Gemini Control Houston.

END OF TAPE

This is Gemini Launch Control at the Cape. We've just resumed our count at T-3 minutes, this was some 15 seconds, we are now at two minutes and 41 seconds and counting on the Gemini 6 mission. The count was picked up right on time leading to an ignition of the Gemini Launch Vehicle at 8:37 and 23 seconds a.m. eastern standard time if all goes well through the remainder of the count. We ran a final status check once again prior to resuming the count and got a go from all elements concerned with the mission. All is still looking good at the present time. At this point in the count we give our final feed to the computer for the guidance system. These are the -- this is the final information to the launch vehicle and of course, also to the spacecraft to give us the correct launch time and the correct parameters for the flight. All is still looking very well at the present time. A launch azimuth for the flight of 81.4 degrees has now been placed in the guidance system. We are now at T-1 minute and 45 seconds and counting. T-40 seconds and counting at the present time, everything still looking well. During the last 10 seconds, Astronaut Alan Bean, who is spacecraft capsule communicator will count down for Astronauts Wally Schirra and Tom Stafford in the Spacecraft. As we reach zero in the countdown, the engines will ignite and some 3.4 seconds thereafter we will get lift-off for Gemini 6. Now 1 minute 12 seconds and counting. During these final phases of the count, actually during the 90 seconds down, we have several highlights in which the -- one of the key ones, of course, is the power transfer. Now 1 minute and counting on Gemini 6. Power transfer where we transfer to internal power on the launch vehicle. We have conserved those batteries up to this time. The spacecraft already is on internal power. Now T-45 seconds and counting, T-30 seconds and

counting, all systems looking good. T-30, all quiet on the communications at the present time. T-20, T-15, T-10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0, ignition.

Engine start and we've got a lift-off. 27 seconds after the hour. Flight Dynamics says the trajectory looks very good. Roll program complete, Schirra says. Guidance says we've got proper roll and pitch. Flight Dynamics and Surgeon are both happy. Mark, 50 seconds. Mark, 1 minute and our velocity is 1342 miles an hour. Chris Kraft continues to poll all the consoles here, he gets a happy report from each one of them, looks good, looks good. Mark, 1+40. Schirra says he's gotten an update. Mark, 2 minutes. Two minutes and our velocity is now 3700 miles an hour. Tanks are go for staging. Coming up on staging, 2 minutes 25 seconds. We've got staging. There it is. Schirra called it. Thrust looks good on stage 2. Guidance is steering, radio guidance has taken over, it will yaw the vehicle slightly to the right, bringing it around some 4 degrees to put it in the proper angle, and it's 3 minutes into the flight. Everything looks good on the ground and in the spacecraft. Three minutes and 47 seconds and the performance is right on the mark so far. No deviation up or down and Wally Schirra's voice is just as calm as it was the other day when he had that shutdown. FIDO says we are right down the middle. Kraft is polling all his positions now for the sustainer engine cut-off status check and everybody is go. Elliot See advises 6 he is go, Schirra says so are they. Tom Stafford advises that the attitude errors are zero. Five minutes into the flight, Mark, and our velocity is 13,360 miles an hour and about 82 miles high. Mark, .8. We've achieved 80 percent of the desired velocity. We will make up the rest in the next 15 seconds. Flight Dynamics Officer says he's happy, 5 minutes 33 seconds. SECO, second stage cut-off. You can hear a little bit of applause here in this room. Deke Slayton says you can't do any better than that.

Schirra is calling out his IVI readings preparatory to thrust and he gets an enthusiastic and reassuring you are go from Elliot See. 6 minutes 20 seconds and they have left the launch vehicle, 6 burned 11½ seconds in leaving the vehicle. Schirra is now calling out his incremental velocity indicator readings. And Guidance Officer Charlie Parker stands and gives a big okay signal with his right hand. This is Houston. We have an initial orbit of 87 by 141. This is being relayed up to the 6 crew right now, 87 by 141. As the man said, you can't come any closer than that. We have now the launch tape which we will start at T-90 seconds and carry it through the powered phase of flight.

Mission Control	Gemini network, this is Houston Network. We have picked up the count. We are at T-2 minutes 35 seconds on my mark. MARK.
S/C 6	Secondary guidance light off.
Mission Control	Launch vehicle is transferring to internal power, minus 130.
S/C 6	Roger.
Mission Control	Stand by for engine gimballing in 5 seconds.
Gemini 6	Roger.
Mission Control	120, -1 minute. On my mark 20 seconds. MARK.
Cape Cap Com	10, 9, 8, 7, 6, 5, 4, 3, 2, 1. Ignition. Lift-off.
S/C 6	The clock has started. That's real fine.
Mission Control	Plus 10.
S/C 6	All .... (garbled) go.
Cap Com	Roger.
S/C 6	Roll complete.
Cap Com	Roger. Roll.
S/C 6	.... (garble) is tracking.
Cap Com	Roger.
S/C 6	Adjust the pressure relief.

Cap Com	50 seconds.
S/C 6	There's zero ... (garbled).
Cap Com	Roger. Give us your cabin pressure Gemini 6.
S/C 6	Cabin pressure is .... (garbled). Cabin pressure looks good.
Cap Com	Roger.
S/C 6	Yaw correction looks good.
Cap Com	Roger, Wally. Mark, 1+40.
S/C 6	... (garbled) mode 2.
Cap Com	Okay, mode 2.
S/C 6	We have a DCS update.
Cap Com	Roger update. Trajectory is looking real good.
S/C 6	Very good. I've got a good second stage.
Cap Com	Roger.
S/C 6	DCS update.
Cap Com	Roger update.
S/C 6	Staging.
Cap Com	Roger, staging.
S/C 6	(garble) ...
	Guidance initiate must be in, it's real slim.
Cap Com	Roger, guidance initiate. Steering looks good from here,
	Gemini 6.
S/C 6	Roger, she looks like a dream. I saw some ... (garbled).
Cap Com	Roger.
S/C 6	Attitude errors are all zeroes in.
Cap Com	Roger.
S/C 6	Attitude errors are zero.

Cap Com Roger. You're right down the line Gemini 6.

S/C 6 Very good.

Cap Com You're go from here, Gemini 6.

S/C 6 You got a big fat go from us. It looks great.

Cap Com Roger, Wally.

S/C 6 Attitude errors are still zero.

Cap Com Didn't copy that time. Standby for point 8.

S/C 6 Roger.

Cap Com Mark, point 8. Be over VR.

S/C 6 (garbled) ...

Cap Com Roger.

S/C 6 We had a very normal burn ... (garbled). She looks very stable here. ...beautiful) separation.

Cap Com Gemini 6, you are go.

S/C 6 Go. You hear that man. .... (garbled).
The azimuth is 52 257 30.

Cap Com Gemini 6, your 1 alpha time is 17+02 and I copied your insertion.

Gemini Control Houston here. The orbit of 6 has now been corrected based on better data coming in from Bermuda. It shows 87 mile perigee and an apogee of 144 miles. The spacecraft, Gemini 7, which is leading 6 by about 1200 miles as they move across the eastern Atlantic right now was just advised of that. Frank Borman came back with a one-word answer, "Wonderful". We are 12 minutes 55 seconds into the flight of 6 and Wally

Schirra said as they moved across the Atlantic the only problem he could see was he had a little smoke on his window, it might have been some of that Florida haze or fog that surrounded the area, it was probably a facetous comment.

END OF TAPE

We're 12 minutes, 55 seconds into the flight of 6, and Wally Schirra said as they moved across the Atlantic the only problems he could see was that he had a little smoke on his window. It might have some of that Florida haze or fog that surrounded the area and it's probably a fecetious comment. All in all we're entirely satisfied with the performance of 6 in this first lap across the Atlantic. This is Gemini Control Houston.

END OF TAPE

Gemini Control, Houston, here. 23 minutes, 8 seconds into the flight of 6. 258 hours, 30 minutes into the flight of 7. And, there's a lot of busy traffic over Africa this morning. The Canary Station found out how busy things can be first. He read out the 7 systems as it preceded the 6 spacecraft by about 1200 miles; and then he turned to 6 and had some brief conversation. Just a passing note between the two spacecrafts, 7's radio sounds a little louder and sharper than 6's; but that's not unusual. Sometimes it takes half a rev to get the proper volume control adjustments made. All in all, both spacecraft are doing fine. It was business as usual over Kano just a few minutes ago; Elliot See contacting 7, giving them a flight plan update. The best information we have now is that 6 will have to perform about a 31 foot per second burn to make these planes absolutely coincide; that's almost immeasureable from the standpoint of degrees; it's down in the order of a few seconds. That burn...There will be first of all a hydrogen adjustment by 6 just south of New Orleans on this first pass. That calls for 13.5 foot per second burn. Right at 2 hours, 18 minutes into the flight, there will be a perigee adjustment by 6 of 59.5 feet per second. At 2 hours and 42 minutes, 18 seconds into the flight, 6 will adjust its plane. That'll be a 31.3 per second burn. At 3 hours, 47 minutes, 36 seconds, 6 will circularize its orbit with a 44.3 foot per second burn; and the therminal phase in this ship, that is 130 degrees away from the rendezvous point, is to begin at 5 hours, 16 minutes, 33 seconds into the flight with a 33.7 foot per second burn by 6. The final maneuver, the terminal phase final, now timed at 5 hours, 48 minutes, 40 seconds. That'll be a 42.5 foot per second burn. We have now some tape conversation with both 6 and 7 as we went by the Canary Station. Let's hear the tape.

HOUSTON Standing by for I.V.I.'s.

S/C 6 Okay. Here are the I.V.I.'s: 11 for forward, 2 right, 2 down.

Copy. 11 forward, 2 right, 2 down.

S/C 6 That's affirmative. I've got something in sight off to my left at about 10:00 o'clock.

HOUSTON Roger. Gemini 6, your orbit is 87 by 144. More tracking coming.

S/C 6 That's great. Very good. ....(Garble).....some little white stuff that's around us. Little white specks.

HOUSTON Roger.

S/C 6 Canary, this is Gemini 6. Ready to copy addresses?

HOUSTON Go ahead.

S/C Roger. Address 72 257 29. Address 94 000 25. Address 97 000 11. Address 52 minus 0000 . Address 73 030 15. Everything looks real nominal.

HOUSTON Roger, Tom. Copied them all.

S/C 6 Thank you.

HOUSTON Gemini 6, check your voice recorder off.

S/C 6 Roger. It's off, Elliot. We aligning SEF, platform mode, primary scanner. All my squibs are off.

HOUSTON Roger. And, did you jettison the bearings?

S/C 6 ...(Garble)...They left us with..We didn't have much choice once we punched that button.

HOUSTON Roger.

S/C Elliot, Tom admits there's no doubt about lift off.

HOUSTON Roger, Gemini 6.

S/C 6 He seems to be settling back here. He's more comfortable now.

HOUSTON Roger.

S/C 6 The ...are working very good in primary; we'll check secondary probably after LOS.

HOUSTON Roger.

S/C 6 All control modes are very good.

HOUSTON Roger, Tom....Roger, Wally.

S/C 6 Okay. I see a little smoke on my window. This just probably came from the staging, but still, it's there.

HOUSTON Roger. Gemini 6, your GMT LO is 13:37:26.

Canary Cap Com, Houston Flight.

CYI Go ahead, Flight. Canary.

HOUSTON Did you copy that insertion.

CYI That's affirmative.

HOUSTON Roger. I think you ought to give that to Spacecraft 7.

CYI Roger. Will do. That's 87 by 144, is that right?

HOUSTON Roge. We hope to have better vector shortly.

CYI Okay. Seven, Canary.

S/C 7 Go ahead, Canary, Gemini 7.

CYI Roger. Well, we did it.

S/C 7 Roger. We didn't get to see the lift off; but we saw them coming up.

CYI Okay. Their orbit is 87 by 144. Everything is go. All systems go. Everything looks terrific.

S/C 7 Wonderful.

CYI Oh, incidentally, 7; the lift off time went right on the nose: 13: 37:26.

S/C 7 Very good.

HOUSTON Canary, Houston Flight.

CYI Go ahead, Flight.

HOUSTON 87 by 140 is the updated orbit from Bermuda. We require a 31 foot per second out of plane and a height adjust on the next pass over the States.

CYI I missed that Bermuda after the purge. Flight, Canary.

HOUSTON Canary, Houston Flight. Just tell him we've got a height adjust and that a plane change will be required in the normal place.

CYI Okay. That's for 6?

HOUSTON That's affirmative.

CYI Okay. What was the new orbit again?

HOUSTON 87 by 140; but we may change that slightly yet.

CYI Okay. All systems are go on Gemini 7.

HOUSTON Go ahead. Say again.

CYI I said all systems are go on Gemini 7.

HOUSTON Roger that. What's his 1C?

CYI I didn't receive a 1...Oh, 1C; I got you. I'll have to get it off the meter.

HOUSTON Okay.

CYI 2.6, Flight.

HOUSTON Roger. 2.6.

CYI That's calculated. We're switching over to 6, Flight.

HOUSTON Roger. All looks good, then, huh?

CYI Gemini 6, Canary Cap Com. How do you read? Over.

S/C 6 Gemini 6. Loud and clear Canary. How about you?

CYI Roger. Read you loud and clear. We have a Bermuda vector for you. You're 87 by 140, requiring an out of plane maneuver and a height adjust.

S/C 6 Roger. Understand. 87 by 140 which will require an out of plane and a height adjust. What kind of apogee did we have in ignition?

CYI Stand by.

S/C 6 Okay.

HOUSTON 31. We're computing it at the present time 31 feet per second.

S/C 6 .....(Garble)....pilot. You ready to copy, Canary?

CYI Go ahead.

S/C 6 Roger. We have a reading now of 6 feet per second forward, 22 left, and 4 down.

CYI Roger. Copy.

S/C 6 Drift indication..We may be running out of plane.

CYI Okay. Did you get that, Flight? 6 forward, 22 left, and 4 down.

HOUSTON Yea. I copy.

CYI Okay. Is that still 31 feet per second out of plane?

HOUSTON That's affirmative.

YI Roger. Calculated out of plane approximately 31 feet per second.

S/C 6 Okay. Thank you.

CYI Roger. All systems are go on the ground.

S/C 6 Roger. We're in great shape here. That was a beautiful launch we had, and we're kicking right along.

CYI Glad to hear that.

S/C ....(Garble)....

CYI Say again.

S/C 6 How's the 7 boys doing? Did they go over a while ago?

CYI They sure did. They're about 5 minutes ahead of you.

S/C 6 Roger. Tell them we're on the same....See them at the next station.

CYI Okay. We have 7 LOS, Flight.

HOUSTON Roger.

IO Kano remote.

S/C 6 Canary Cap Com. This isn't going to sound too well until we get our radiator working right.

CYI Roger.

HOUSTON What did he say Canary?

S/C 6 ....(Garble)....

CYI He's talking about his...(Garble)...

HOUSTON Say again.

CYI The's talking about communications check, Flight. Stand by.

HOUSTON Roge.

CYI Whenever you're ready, 6; we'll check communications.

S/C 6 Go ahead. Would you also give me a call on the adapter, UHF #1. Do you read?

CYI Roger. Reading loud and clear. How about me?

S/C 6 You're the same.

CYI Roger. Gemini 6, Canary. You read on UHF 1?

S/C 6 That's affirmative. We're now on secondary scanning. Will come up on UHF shortly.

CYI Roger.

HOUSTON Gemini 7, Houston Cap Com. How do you read?

S/C 6 Garbled conversation overlaid by conversation from Houston.

S/C 7 This is 7. Loud and clear.

HOUSTON Roger. Stand by, 7.

S/C 7 This is 7. Loud and clear, Houston.

HOUSTON Roger. Stand by 7.

CYI Canary's had LOS.

HOUSTON Roger, Canary.

CYI Roger. We have the communications check, Flight; and everything went well.

This is Houston again. That three-way conversation continued over Kano. We've got some tape on that. Meanwhile, Elliot See is putting in a call right now to 7 via Tananarive. He's going to advise the 7 spacecraft to go ahead and put their suits on, both pilots preparatory for the rendezvous maneuver about 5 hours from now. Let's continue now with the tape conversation via Kano.

CYI All systems are go on Gemini 6, Flight.

HOUSTON Roger that. Kano go remote. Gemini 7. Kano remote. Gemini 7.

KNO Kano remote.

HOUSTON Roger that. What did he say about his secondary scanners? Did he just say he was checking them?

CYI That's affirmative, Flight. I'll have to go back on the tape I recorded and see what he said exactly.

HOUSTON I think he just said he was checking them.

CYI Roge. He did. He did go to secondary scanners.

HOUSTON Roger. That's the flight plan.

CYI Okay.

HOUSTON Gemini 7, Houston. I have an update for you. Gemini 7, Houston. Do you read?

S/C 7 Roger. Stand by. Go ahead.

HOUSTON Time 259:15:00, purge fuel cells at Hawaii.

S/C 7 Roger.

HOUSTON Gemini 6, Houston. How do you read? Kano go remote. Gemini 6.

KNO Kano is remote.

HOUSTON Gemini 6, Houston Cap Com. How do you read?

S/C 6 Houston Cap Com, Gemini 6. Do you read?

HOUSTON Roger. Read you loud and clear. Sounds like we've got good communications.

S/C 6 Roger. We're talking on UHF #2....(Garble)....

HOUSTON Roger, 6. Carnarvon Cap Com, Houston Flight.

CRO Houston Flight, Carnarvon Cap Com. Go ahead.

HOUSTON I'd like to give you a run down on the SMT we have which has been updated by Canaries and the Canaries' vector confirms the 87 by 140. You ready to copy?

CRO We're ready to copy?

HOUSTON You ready to copy?

CRO Go ahead.

HOUSTON Okay. At 134:03, 13.5 Delta V, heigth adjust. 02:18:02, 59.5 Delta V, catch up or phasing, whichever one you want to call it. Got that?

CRO Roger. Copy.

HOUSTON At 02:42:18, Delta V 31.3, plane change.

CRO Roger. Copy.

HOUSTON At 03:47:36, 44.3 Delta V, NSR.

CRO Roger. Copy.

HOUSTON And the TPI should take place at 05:16:33. And the TPF at 05:48:40.

CRO Roger. We copy.

HOUSTON Okay.

CRO If you don't mind, I'd like to go back over these with you and see if I did get them all.

HOUSTON Okay. Have at it.

CRO Alright. Orbit's 87 by 140. At 01:34:03, Delta V 13.5, height adjust. At 02:18:02, Delta V 59.5, catch up. At 02:42:18, Delta V, 31.3, plane change. At 03:47:36, Delta V, 44.3, NSR. At 05:16:33, TPI. 05:48:40, TPF.

HOUSTON All correct.

CRO Roge. Thank you.

HOUSTON Tananarive, go remote. Kano go local. Tananarive remote. Gemini 7. Repeat, Gemini 7.

TAN Tananarive is remote.

Houston here. That was the start of the Tananarive conversation. On the next piece of tape, you will hear the discussion on the suits, advising 7 to take off...to put on their suits preparatory to rendezvous. Here is the additional portion of that tape...uh...It's not quite ready. Shirra advised over Tananarive that both his primary and secondary scanners, horizon scanners, are operating very nicely now. Earlier he had seen some drop outs or something of that nature as he crossed the Atlantic. But, they're settled down and they're working very nicely. You'll notice the transmission from 6 is slightly distorted to this point. Still adjustment needed. Now, the additional conversation is ready. Let's hear it.

HOUSTON Gemini 7, Houston Cap Com. How do you read?

S/C 7 This is 7. Loud and clear.

HOUSTON Roger, 7. We're go for a 4th orbit rendezvous. You can start putting on your suits at this time.

S/C 7 Seven, roger.

TAN Tananarive has telemetry acquisition.

HOUSTON Tananarive, go prime, Gemini 6. Repeat, Gemini 6.

TAN Roger.

HOUSTON Gemini 6, Gemini 6, Houston. How do you read?

S/C 6 Roger. I read you loud and clear. How do you hear me?

HOUSTON Roger. You're weak, but very clear. It's getting better. Would you confirm radiator to flow, adapter C-Band to continuous, and re-entry C-Band to command.

S/C Roger. Radiator is now flow, ...(garble)...We have C-Band re-entry to command and adapter C-Band to continuous.

HOUSTON Roger, Gemini 6.

S/C 6 ...(Garble)...

HOUSTON Did not copy your last, Six.

S/C 6 Houston Cap Com, Gemini 6.

HOUSTON Go ahead, 6.

S/C 6 ...(Garble)...

HOUSTON Say again, 6. You're weak and a little bit garbled.

S/C 6 Roger. Both primary and secondary scanners are looking very well.

HOUSTON Understand primary and secondary scanners are looking good.

S/C 6 Our suit temperature has gone down about one degree.

HOUSTON Roger. Suit temperature has gone down one degree.

This is Houston. Over Carnarvon, Gemini 6 will be given a go for a 17-1 flight. Additional values will be read out; but all in all, we are very happy with the 6 performance. At 43 minutes into the flight of 6, this is Gemini Control, Houston.

END OF TAPE

CRO Gemini 7, Carnarvon.

S/C Go ahead, Carnarvon, Gemini 7.

CRO Roger, we have you go on the ground. You will have a flight plan update over the States. We would also like to have you start your exercise and eat period at 259 00 00.

S/C Roger. We're starting to drift now. We start it as soon as we get into drift.

CRO Roger. ...

S/C You can consider this the exercise period.

CRO Roger. Copy. All systems are go here, Flight.

FLIGHT How are those fuel cells, Carnarvon?

CRO Very good, Flight. 2C looks like it's about 3.8 amps, Flight.

FLIGHT 2C, 3.8.

CRO Affirm.

FLIGHT What's the total current now on both stacks, I mean both cells?

CRO 16 amps, Flight.

FLIGHT Roger. How is it split?

CRO Bus 1 is 7, bus 2 is 9, Flight.

FLIGHT Roger.

CRO Flight, we have C-Band track on 6. We have a carrier with low modulation. We cannot lock.

FLIGHT Say again.

CRO We have C-Band track. We do have a carrier, but it's low modulation. We cannot lock up on it.

FLIGHT On what?

CRO On 6. We have TM solid. We're still getting a lot of drops on 6.

FLIGHT Roger. If you give the SMT to 6, tell them that that burn is a plane change burn toward the south.

CRO Roger. That's the one at 02 42 18, right?

FLIGHT That's affirmative.

S/C 6 Carnarvon Cap Com, Gemini 6, do you read? Over.

CRO Gemini 6, Carnarvon Cap Com. Read you loud and clear.

S/C 6 Roger. ...(garbled)....Over. Go ahead.

CRO Roger. Copy.

S/C 6 Looks like your having some thunderstorms down that way.

CRO That's affirmative, 6. We've got you go on your radiator.

S/C 6 Roger.

CRO Turn your secondary props off and evaporator switch to normal.

S/C 6 Carnarvon, could you give us an estimate of our out of plane burn?

CRO Roger. We have have an update for you. We'd also like to get your Go No-Go reading at this time, please.

S/C 6 OK, .. OK, we're ready for you.

CRO OK, go ahead. We're standing by to hear your readings, Gemini 6.

S/C 6 You must have something we don't have. Do you want us to read the batteries? We're go.

CRO Roger. I need your adapter batteries 1, 2, and 3 readings, please. All you've got.

S/C 6 Roger. Adapter battery 1 is 24.5 volts. 1A is 7.0 amps. Adapter battery B is 24 volts, and 6.8 amps. No. 1C is 24, and 6.9 amps. 2A is 24, and 8.5 amps. 2B is 24, and 8.3. 2C is 24 and 9.0. Over.

CRO Roger. We copy.

FLIGHT If you're going to give them that SMT, you better hurry.

CRO Gemini 6, we give you a "go" for 17-1. Also, I have a update for you on your maneuvers. Are you ready to copy?

S/C 6 Rog, on the go for 17-1 and ready to copy on the

update.

CRO — Purge TDP, 01 34 03. Delta V, 13.5, height adjust, 02 18 02, Delta V 59.5, phase adjust, 02 42 18, Delta V 31.3, plane change, toward the south, 03 47 36, Delta V 44.3. Coelliptical, 05 16 33, Delta V, 33.7, terminal phase, initiate, 05 48 40, Delta V, 42.5 , terminal phase, final. Did you copy?

S/C 6 — Roger. We have those. We have the general ball park. The main thing we want now is first one when we get back to the height adjustment over the States.

CRO — Roger. It's 13.5, isn't that right?

FLIGHT — That's roger. Tell him we'll update him over Hawaii.

CRO — We'll update you on the final height adjust over Hawaii. Also, we'd like you to check on your axis bias. It's slightly out of tolerance. So don't press the start-stop until late for your height adjust. We'll get you a better hack on it over the States.

S/C 6 — Roger, understand we have a slight ....bias here and will not push the start-stop until just after the burn.

CRO That's affirm.

S/C 6 ..(garbled)

CRO Roger, would you like a time hack?

S/C 6 That's affirm. We'd like a time hack.

CRO All right, I'll give you a time hack. It's 57 minutes 30 seconds. Mark 57, 30.

S/C 6 Roger, we've got it. At this point, we have primary scanner and getting intermittent noise.....looking for a good horizon but we don't see one either. Over.

CRO Roger. Can you place ..... to ECS O_2 position?

S/C 6 Again.

CRO Gemini 6, Carnarvon, would you turn your ..... switch to the off position?

S/C 6 Rog. Off. CQA is minus ...percent.

CRO Roger on that. Carnarvon has had LOS on Gemini 6.

FLIGHT Anything else, Carnarvon.

CRO Flight, Carnarvon.

AFD This if AFD, go ahead.

CRO AFD, this is Carnarvon.

AFD Go ahead.

CRO This is Carnarvon.

AFD Go ahead.

CRO OK, it looks like he had both pumps on when he went over the hill.

AFD Copy, both..(tape cut out)..

END OF TAPE

Gemini Control Houston here. Since Tananarive we have had conversation with both spacecraft over Carnarvon, Canton Island, and Hawaii and we have just put in a call via California. One or two points that have developed since the last time we were on the air. The 7 spacecraft did not see 6 lift-off, but it did see the 6 booster coming up through the clouds, they acquired them shortly after lift-off. Apparently the Cape area was pretty well cloudy from the angle that 7 had. The suit temperature -- the temperature of the 6 cabin has settled down. It had jumped up and started off a little bit high, it's presently reading about 90 degrees in the cabin and coming down. That is precisely the way that Wally Schirra started his Mercury flight, the temperature was a little higher than that during the first orbit and it quickly settled down for that 6 orbit flight. Jim Lovell is all ready back in his space suit, we do not have a report yet on Frank Borman, we'll know as soon as the leads show up reading on the ground. The plane change that 6 will have to perform, first the inclinations are as follows. The Gemini 7 is in a 28.9 degree inclination and Gemini 6 is 28.97 degrees. The maneuver that Schirra and Stafford will perform will be a maneuver toward the south. They will point the nose end south and burn that 31 - roughly 31 feet per second to make those inclination angles coincide. Let's cut in now. Elliot has been talking to 7, he's updated them now. Let's cut in now. I think 6 is coming up on the line.

Guaymas — Guaymas has solid TM on 7 and all systems are go.

Cap Com — Roger Guaymas.

Cap Com — Gemini 6, Houston. How do you read.

Gemini 6, Houston. How do you read.

Gemini 6, Gemini 6. Houston Cap Com. How do you read.

S/C 6 — We just ... (garbled)

Cap Com Gemini 6, you are fading in and out, try again.

S/C 6 Roger Houston. You are coming in clear now. Do you also read me.

Cap Com Roger, read you clear now. We're standing by for your burn. Advise this a UHF 6 pass.

S/C 6 Roger, Elliot. We are trying this first burn in platform mode, we are approaching the aligning, BEF ...(garbled).. mode. Everything looks beautiful.

Cap Com Roger. We are standing by for your burn 6.

Guaymas Guaymas has solid TM on 6 and all systems are go.

Cap Com Roger, Guaymas.

S/C 6 Elliot, take a good check on our accelerometer bias on this burn. We'll bring it up on catch-up start comp just before burn time.

Cap Com Roger, and after your burn when you are completed with it, we plan to update your accelerometer bias. We'll contact you after the burn.

S/C 6 Very good.

This is Gemini Control Houston here. While we are standing by for the burn we should advise that earlier in the pass Gemini 7, Jim Lovell advised that they were not reading the 6 transmissions to earth. I say again, they were not reading the 6 transmissions. We do not know whether Schirra and Stafford are reading 7's transmissions, but perhaps we will know later in this pass.

Houston here again. We are about 4 minutes away from this burn. It's been corrected slightly. We will burn 14.2 feet per second and the fuel remaining onboard 6 after the burn will be an estimated 660 pounds. 6 took off with approximately twice the propellant onboard propellant load that 7 took off with. Here is some more conversation.

S/C 6 Houston Cap Com, Gemini 6. Is 7 talking to you. We hear something coming in very garbled.

Cap Com Negative, they are not talking to us at the present time.

S/C 6 Roger, we read somebody transmitting and it is garbled.

Cap Com Roger. Gemini 6, Houston. You're coming up on 1 minute to the burn. MARK.

S/C 6 Roger, we're right with you. Starting the burn.

Haney We are showing the burn on the ground.

S/C 6 MARK, burn complete.

Cap Com Roger, looks good.

S/C 6 Good.

Our Flight Director Chris Kraft points out now that's the first major milestone in the orbital phase of this dual flight.

S/C 6 All residuals are minimal at 11.2 and propellant quantity remaining is 87.5.

Cap Com Understand. 87.5, is that correct?

S/C 6 That is the quantity remaining, correct.

Cap Com Roger. We are ready for you to go computer prelaunch now so we can update your accelerometer bias.

S/C 6 Roger, going to prelaunch now. .... (garbled).

Cap Com Say again your last, 6.

S/C 6 I said all the systems are performing beautifully.

Cap Com Roger. Your UHF transmissions are slightly garbled Wally.

You might try adjusting your mike.

Cap Com — Gemini 6, did you receive that update.

S/C 6 — That's affirmative.

Cap Com — Roger.

S/C 6 — The launch ... (garbled) ...

Cap Com — Gemini 6, what ever you did to your mike, do something different. You are worse now.

S/C 6 — How do you read me now, Elliot.

Cap Com — That's much better.

S/C 6 — Okay. All I said was the launch weather at the Cape was great, but the Gulf Coast is all cloud.

Cap Com — Roger. Gemini 6, Houston. We are complete with your accelerometer bias update. You can go back to catchup and we suggest you rerun your accelerometer bias check yourself.

S/C 6 — Gemini 6. Willco.

Cap Com — I have a node update when you are ready to copy.

S/C 6 — Go ahead.

Cap Com — Node, 01 12 08, rev 1, 179 degrees west, 08 hours 28 minutes, 42 seconds, right Ascension. Do you copy.

S/C 6 — Roger. for the 01 12 08 is rev is, 179 degrees west and 08 28 42 on the right Ascension. And do you have the time for that next burn?

Cap Com — It hasn't changed from the summary maneuver that Carnarvon gave you Tom. Do you have that? Do you want me to give you that again?

S/C 6 — ... (garbled) Australia.

Cap Com — Okay, it is 2 18 02 for catchup.

S/C 6 — Roger, 2 18 02.

Cap Com Roger, and that will be a delta V of 59.5. We'll update you on it.

S/C 6 Roger, delta V update, thank you.

Cap Com Gemini 6, Houston.

S/C 6 Go ahead Houston.

Cap Com We'd like you to go to Start Comp at this time so we can check your accelerometers while you are still in contact here.

S/C 6 Roger. Start comp.

Cap Com Roger. Gemini 6, Houston.

S/C 6 Go Houston.

Cap Com We have lost a multiplexer and we are unable to readout several temperatures here on the ground. I'd like to advise you of that. These are cabin temperature, left suit temp, right suit temp, analog and range rate. That's all.

S/C 6 Okay. We're yawing around right now to SEF, and we will start getting all our cabin gear up.

Cap Com Roger.

Grand Turk LOS Grand Turk, GT6.

This is Gemini Control Houston. We've lost signal via Antigua so that will wrap up this pass across the States. A few numbers have reached us from the computers downstairs on our cut-off condition as 6 was inserted. Now we are trying once more, here's Elliot again.

Cap Com Roger. I have an update on your catchup burn.

S/C 6 Gemini 6, go ahead.

Cap Com G.e.t. of the burn 2 17 59, delta V, 63.4. Burn time 1 plus 20, yaw 0, pitch 0. Core 25 00 634, core 26 and 27 all zeros. Aft thrusters, maneuver posigrade. Do you copy.

S/C 6 Roger Houston. For the height adjust the G.e.t. is 2+17+59, delta V, 63.4, duration 1+20, yaw 0, pitch 0, core 25 00 634, 26 is 0, 27 is 0, aft thrusters, posigrade maneuver.

Cap Com Roger. And that's your catchup maneuver.

Antigua LOS Antigua, GT-6.

This is Gemini Control. We are going to assume that we have lost range now. The spacecraft is at the 40 degree mark out over mid-Atlantic and we got unusually good range there from 6 this morning. As you can hear the communications are a little murky, but they will probably clear up, that's a fairly normal pattern now on the first rev for most of these spacecraft. Here are some conditions at - just at 20 seconds after cut-off on 6.. The ground range from the Cape, we had planned at the point of SECO+20 seconds, we had planned that it should be 614.5 miles from pad 19. It was actually 618.0 miles. Its altitude, its perigee altitude, we had planned 87.0 miles we have 87.2 miles, nautical. The velocity at that time in statute miles per hour first, planned 17543, we achieved 17,535. In feet per second, 25, 730 planned, we achieved 25 718. Our apogee we had planned 146.2, we achieved 140.4. Our orbital period, this is based on the inertial reference is 88 minutes 42 seconds was the planned, the actual achieved is 88 minutes 42 seconds. Our inclination for 6, we had planned 28.89 degrees, we achieved 28.97 degrees. Lift-off was, as I think you heard, 37 minutes and I don't have the precise second, as near as I recall it was 27 seconds. We do have booster cut-off at 2 minutes 36 seconds was the planned and that was the actual. The second stage cut-off was planned for 5 minutes 36 seconds,

it cut-off at 5 minutes 39 seconds. This is Gemini Control Houston.

END OF TAPE

*(Air/ground on pass over Hawaii not aired.)

HOUSTON Canton go remote. Gemini 6. Repeat, Gemini 6.

HAW Gemini 7, Hawaii Cap Com. Your adapter C-Band switch to the continuous position, please.

S/C 7 It's continuous.

HAW Roger.

S/C 7 Are you ready for our fuel cell purge.

HAW Stand by. Wait until I get good TM solid. I'll let you know when we're ready. How are things going? We want you to leave that adapter C-Band in continuous until further advised.

S/C 7 Roger.

HAW And, did you copy the States' transmission at 260:00:00, power up switch coolant tubes...correction...switch coolant pumps prior to powering up platform.

S/C 7 Roger. At 260:00:00, switch coolant pumps and power up.

HAW Affirmative. TM solid, Gemini 7. We're showing you go here on the ground, and we're ready for your fuel cell purge.

S/C 7 Coming down.

HAW Roger.

S/C 7 First section completed purge.

HAW C-Band track, Gemini 7 and Hawaii. AFD, Hawaii Cap Com.

HOUSTON Go ahead.

HAW Those OPC's that came in garbled: one at AOS, one at mid-test, and one at LOS.

HOUSTON Roger. That's affirmative.

HAW Okay.

HOUSTON Purge look okay?

*(Air/ground on pass over Hawaii not aired)

HAW Looking real good, Flight.

HOUSTON Hawaii, in case he asks; we're going to update Spacecraft 6 bias after the burn.

HAW Roger. Understand. Gemini 6, Hawaii Cap Com.

S/C 6 Go ahead, Hawaii.

HAW How are you doing up there this morning?

S/C 6 Very good. Nice to be up here.

HAW It's good to have you up there. We're showing you go on the ground. And, what's your status?

S/C 6 We are completely go. The suit temperature has come under control very nicely. I'll give you a reading.

HAW Go ahead.

S/C 6 It's now about 57 degrees and we're comfortable, in good shape.

HAW Okay. Would you turn your secondary pumps off? Over.

S/C 6 Secondary's off.

HAW Okay. We've got that. Stand by one. What's your cabin temperature?

S/C 6 Cabin temperature is 90 degrees.

HAW Roger. 9-0. I've got your height adjust information. Are you ready to copy?

S/C 6 Ready to copy.

HAW GET B, 01:34:02. Delta V 14.0. Your burn time, 0 plus 24. Yaw 180. Pitch 0. Core 25-00-14-0. Cores 26 and 27 are all zeros. Your forward thrusters, the maneuver will be posigrade. This is your height adjust.

S/C 6 Roger. For the height adjust: the GET of 01 plus 34 plus 02; Delta V, 14.0; Duration 0 plus 24. Yaw 180 degrees; pitch 0; Core 25-00-14-0. Cores 26 and 27 all zeros. Forward firing thrusters, posigrade maneuvers.

HAW Okay. You got all that right. Gemini 7, Hawaii Cap Com. We've got a good read out. Would you put your quantity read switch to the ECS 02 position.

S/C 7 It is.

HAW Okay. Fuel cell 02 position. LOS, Gemini 7.

HOUSTON Roger.

HAW Six, Hawaii.

S/C 6 Six, go ahead.

HAW Okay. We'll be standing by if you need anything else. Can we help you now?

S/C 6 Negative. ...(garble)...on Tom's side, but you couldn't fix that

HAW Okay. Say that again. I couldn't read you too well.

S/C 6 Roger. Apparently on sun rises, they'll be on Tom Stafford's side, but you can't fix that.

HAW Okay. Very good. They'll update your bias after you complete your burn, over the States.

S/C 6 Very good. We'll start inching around for BEF shortly.

HAW Roger. Understand. We'll be standing by.

S/C 6 Roger. Thank you, Hawaii.

HAW Hawaii's had complete LOS on 7.

HOUSTON Roge.

HAW Telemetry LOS, Gemini 7, Hawaii.

HOUSTON California go remote. Gemini 7, repeat, Gemini 7.

CALIFORNIA California is remote.

HOUSTON Guaymas, AFD.

GYM AFD, Guaymas.

HOUSTON Okay. You got our mission instruction.

GYM Negative.

*(Air/ground on pass over Hawaii not aired)

HOUSTON Okay. We're going to remote through Cal. this time.

GYM Okay. Do you want any special summaries for 6?

HOUSTON Stand by one. Give us 2 OBC's on 6, please.

GYM Roger. AOS and LOS.

HOUSTON Roge.

GYM Okay.

HOUSTON Gemini 7, Houston. How do you read?

S/C 7 Loud and clear, Houston.

HOUSTON Roger. This will be a UHF 6 pass. Would you confirm your DCS circuit breaker is off?

S/C 7 Roger. The DCS circuit breaker is off.

HOUSTON Are you copying the Spacecraft 6 transmissions?

S/C 7 Negative. We can hear ground transmit to them; but we cannot hear them transmit back.

HOUSTON Roger. I'll have a flight plan update for you after the 6 burn which is in approximately 10 minutes.

S/C 7 Roger.

HOUSTON As a matter of fact, if you're free, I can start giving you some of it now and then I'll leave you in a minute.

S/C 7 Ready to copy.

HOUSTON Okay. You got the 260 entry on coolant pump switching and powering up?

S/C 7 260:00 power up.

HOUSTON That's right. Switch coolant pumps prior to powering up the platform. 261:00:00, transponder on. 262:45:00, purge fuel cells at Texas. 266:16:00, purge fuel cells and PLA update at RKV. 269:00:00, bio-med recorder #2 to continuous. 269:28:00, purge fuel

*(Air/ground on pass over Hawaii not aired.)

cells, and crew status report on the command pilot at RKV. Node time...Stand by, that was for Gemini 6. Did you copy everything, Seven?

S/C 7 Roger.

HOUSTON Okay. That's your complete update. I'll be switching to 6 now; and I probably won't be calling you back.

S/C 7 Roger. Understand. Seven here.

HOUSTON California go remote, Gemini 6. Repeat, Gemini 6.

CALIFORNIA California is re.....

END OF TAPE

This is Gemini Control Houston, 2 hours and one minute into the six mission, 260 hours 8 minutes into the seven. The closure distance or the distance separating these two is closing gradually. At the time of that height maneuver, immediately after the height maneuver adjustment over New Orleans, just south of New Orleans last time, the separation distance was 635 nautical miles. The distance continues to shrink and at the next maneuver, the phasing maneuver, two hours and 18 minutes into six's flight, the distance between the two will be 430 nautical miles. We may also, we were just advised of another very slight height adjustment over the states next pass that's still under consideration, however. Then at the plane changing maneuver -- two hours and 42 minutes into the flight, the separation distance will be 375 nautical miles. At the time of the circularization maneuver at approximately three hours and 45, 47 minutes, the separation distance will be 167 nautical miles. And at the terminal phase initiation five hours and 15 minutes, 16 minutes, into the flight, the separation distance will be 32 nautical miles. Six all this time, will be slightly below and behind seven. We have tape conversation with both spacecraft as they sailed over Ascension Island a few minutes ago and it sounds like this.

HOU CAP COM Gemini 7, Houston Cap Com, how do you read?

S/C Loud and clear Houston.

HOU CAP COM Roger. Everything seems to be coming along fine. They got the height adjustment burn over the U.S. We've updated them for catch up burn. We're stand by for your platform power up.

S/C Did you want the computer on on our power up, over.

HOU CAP You don't need to put that on at this time, seven.

S/C Roger.

HOU CAP COM We're going on over to six again Gemini 7 to update their maneuver again. Talk to you later.

S/C Roger.

HOU Ascension go remote, Gemini 6.

HOU CAP COM Gemini 6, Houston Cap Com how do you read?

S/C Houston this is 6.

HOU CAP COM Roger, I have a slight change in your catch up maneuver update.when you're ready to copy.

S/C ...(garbled)...

HOU CAP COM Okay, GET of the burn 21800, Delta V 60.8, duration 1 + 17, co-ord 25 00 608. Everything else is the same. Do you copy?

S/C GET is 20200, the Delta V is 60.8, the time of duration is 1 + 17, co-ord 25 00 608.

HOU CAP COM Roger. I don't believe you got the GET of the burn right. It's 218 00. Do you copy?

S/C 2 + 18 + 00.

HOU CAP COM That is affirmative.

HOU CAP COM Gemini 6, for your information, the accelerometer bias check we made here was very good.

S/C Roger.

HOU Ascension has LOS on Gemini 7.

This is Gemini Control Houston again. Our precise liftoff time is as follows, which will be in Eastern Standard Time: 8:37:26.471. That was 8:37:26.471. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston, 2 hours 17 minutes into the flight of 6 and the pilots within the minute will perform their major burn over the Indian Ocean. We still have the line up, I believe, I don't know that we will be able to hold the communications with 6 throughout the burn. The time of the burn will be nearly 44 seconds long; the velocity increment is to be 60.8 feet per second. During the Tananarive pass Gemini 6 reported they are now reading the 7 transmissions loud and clear and toward the end of the conversation we have for you on tape we can, ...you will hear Wally Schirra call back and say that we have the Gemini 6 patch in view. This was a little confusing to us at first. We had him repeat his transmission and then he clarified and then he said we have the constellation Orian clearly in view. And of course this is the symbol for the patch that Wally Schirra and Tom Stafford adopted as standard for their flight. Here's the conversation now between both spacecraft and Elliot See over Tananarive.

CAP COM	Gemini 7, Gemini 7, Houston, How do you read?
TANANARIVE	Tananarive has telemetry acquisition.
CAP COM	Gemini 7, Gemini 7, Houston, How do you read?
S/C	Loud and clear, Houston, go ahead.
CAP COM	We'd like a readout on your ohms quantity.
S/C	This is Gemini 7.
CAP COM	Go ahead, we'd like a readout on your ohms quantity.
S/C	Ohms quantity reads 16 percent.
CAP COM	Roger, 16 percent.
S/C	Affirmative.
CAP COM	Everything seems to be going o.k., uh...Frank, we've given them an update for their plane change maneuver. Uh, correction, for their catch-up

maneuver and we've got one ready for the plane change. They'll be making their catch-up maneuver just past Tananarive here. Looks good so far.

S/C — Very good.

CAP COM — You guys finished lunch and getting the suits on?

S/C — Got our suits on.

CAP COM — Suits on. Roger.

S/C — Houston Cap Com, Gemini 6 here. We read you loud and clear for all those messages.

CAP COM — Roger, Gemini 6. Very good.

S/C — We heard them give one reading which was the fuel quantity of 16 percent but that was the last we heard.

CAP COM — Roger, very good 6.

S/C — Houston, Gemini 7.

CAP COM — Go ahead 7. Gemini 6, Houston, were you copying Gemini 7's answers?

S/C — Only one answer and that was his first answer of 16 percent fuel quantity.

CAP COM — Roger, we plan for that to get better.

S/C — Roger.

HOU — Tananarive, go remote Gemini 6.

Tananarive — Roger, Tananarive remote.

HOU — Roger.

CAP COM — Gemini 6, Houston. If you read, we're standing

by for your burn and counting down. We have four minutes and 52 seconds.

S/C — Roger, affirmative. Cap Com, Gemini 6, we have our (garbled)

CAP COM — Say again, 6. You have what in view?

S/C — (garbled) patch in view.

CAP COM — Gemini 6, we did not understand that last transmission.

S/C — Roger, we have the Gemini 6 emblem patch in view.

CAP COM — Roger, we copied.

Tananarive — Tananarive has LOS.

Gemini Control, Houston, here. 7 has been raised by Carnarvon in the last thirty seconds. We still have no word on the outcome of 6's burn, but the... we're sure they're going to start on time. The computers have looked at the data from 6 for the last two hours and it has been decided that we will perform a second height adjustment over the states. This will only be a, uh, height adjustment of one foot per second; be done approximately over Texas on this next pass by 6. This will not change the times or the amounts of the other burns we've listed before that 6 will perform. The time of that height adjustment has been inserted into our summary maneuver table and it shows up at 3 hours, 3 minutes and 19 seconds into the flight of 6. At 260 hours, 30 minutes, 31 minutes into the flight, this is Gemini Control in Houston.

END OF TAPE

Gemini Control Houston, two hours, 34 minutes into the flight of 6. Wally Schirra reported over Carnarvon that he had completed the burn over the Indian Ocean, when we were out of contact, with success, it was completely nominal. We are presently showing about 611 pounds of fuel remaining on board. Tom Stafford came into the conversation during much of the pass over Carnarvon, checking his readings, and Tom is going to be very busy watching that computer in getting all the right values, getting the right numbers up in the window for Wally to burn off during these adjustments he's making during the early part of the flight. Here now is the Carnarvon tape.

HOU FLT	Houston, Flight
CRO	Flight, Carnarvon
HOU FLT	You have the plane change?
CRO	That's affirm.
HOU FLIGHT	Roger
CRO	Since he got the OAMS prop quantity in, you want us to hear it again or not?
HOU FLT	No, that's fine.
CRO	Roge.
CAP COM	One minute to burn.
CRO	Flight, on this second height adjustment maneuver over the states, will that be updated at Hawaii?
CAP COM	Yes, stand by on that for a minute. I think that is where we are going to update that. That's correct.
CRO	Roge.
CAP COM	You're gonna smoke one with me at six hours.
CRO	Thank you.
CAP COM	Not that one, I got a special one.

CRO	Carnarvon has TM solid on Gemini 6.
CAP COM	Roger, Carnarvon
HOU FLT	You gonna smoke a cigar with me, Carnarvon?
CRO	Say again? ...You betcha we will.
CRO	Gemini 7, Carnarvon Cap Com.
S/C	This is 7, go ahead Carnarvon.
CRO	Ah roger, we have nothing for you this pass, you are looking good on the ground. Standing by.
S/C	Roger, we are powering up and going ...(Garbled)
HOU FLT	Houston, Flight.
CRO	Flight, Carnarvon
HOU FLT	Tell Spacecraft 7 that the order for the day is still to conserve fuel.
CRO	Gemini 7, Carnarvon Cap Com. Flight just advised that the order for the day is conserve fuel.
S/C	We'll do our best.
CRO	Roger. You've been doing real good so far.
CRO	Gemini 6, Carnarvon Cap Com
S/C	Carnarvon, Gemini 6 here.
CRO	Ah Roger, do you have any information to report to us from that phasing maneuver?
S/C	Roger, confirmed burned all residuals, propellant quantity remaining is about 79 per cent.
CRO	Roge. Copy burned all residuals propellant quantity remaining 79 per cent.
S/C	That's affirmative.
CRO	Roger. There will be another height adjust maneuver

which will take place over the states on this next pass. You will be updated over Hawaii.

S/C Roger, understand update over Hawaii.

CRO Roger, I have your plane change information if you are ready to copy.

S/C Roger, send this up a little slower this time.

S/C Carnarvon, Gemini 6, ready to copy.

CRO Roger.

CRO Flight, Carnarvon

HOU FLT Go ahead.

CRO Negative TM on 6.

HOU FLT Is he in realtime and acq aid?

CRO We'll check it.

HOU FLT ....not patched.

CRO ....0317, thrusters aft, maneuver south. Do you copy?

S/C Roger Carnarvon. For the plane change at a GET of a burn, 02+42+07, Delta V, 31.7, duration, 0+40 seconds, yaw, right 90degrees, pitch 00, core 25260, core 2790317, aft thrusters, maneuver south.

CRO Roger, would you check to make sure your TM switch is in realtime acq aid?

S/C Roger, realtime acq aid.

HOU FLT That give it to you?

CRO Roge.

HOU FLIGHT You now have TM.

CRO We now have TM and C-band track.

HOU FLIGHT Roge. You didn't have C-band track before?

CRO Yeah, we had C-band slightly before.

CRO	Flight, power up on GT-7 shows main bus one at 17.5 amps. main bus two 19.0 amps, two Charlie is carrying 6.7 amps.
HOU FLT	Roger.
CRO	He's supposed to leave the TM realtime acq aid until the end of rendezvous isn't he?
HOU FLT	On spacecraft 6.
CRO	Roge.
CRO	Gemini 6, Carnarvon Cap Com.
S/C	Go Carnarvon.
CRO	Ah Roger. Would you leave your TM switch in the realtime acq aid position until completion of rendezvous please?
S/C	Roger, leave in realtime acq aid position until completion of rendezvous. It must have inadvertently got knocked off.
CRO	Roger.
CRO	Okay, Flight, he looks pretty good from here - that's 6.
HOU FLT	Roger
CRO	We've had LOS of 7.
HOU FLT	Roger
CRO	(Garbled)....LOS of 6

END OF TAPE

This is Gemini Control Houston, 2 hours, 58 minutes into the flight of 6. Over Hawaii a few minutes ago, among other things, Gemini 6 reported that they had completed their plane-changing burn. That was 2 hours, 42 minutes into the flight. It occurred between Australia and Canton Island. Here's the taped conversation between both spacecraft and the ground over Hawaii.

HOU FLIGHT — Hawaii Cap Com, Houston Flight.

HAW — Houston Flight, Hawaii Cap Com.

HoU FLIGHT — It appears that that cooling loop is getting a little warm. Uh, you might tell the crew that, uh, we feel if they are warm, uh, they can turn on that secondary loop. Spacecraft 6.

HAW — Roger, understand.

HOU FLIGHT — Hawaii, pad message on, uh, height adjust coming at you.

HAW — Roger, Flight.

HOU FLIGHT — Called a tweek burn.

HAW — Very good. How're we doing?

HOU FLIGHT — Just great.

HAW — Great.

HOU FLIGHT — All the burns look very good.

HAW — Glad to hear that. You smoking a big long green one?

HOU FLIGHT — I've been smoking, but not the long green one, yet. That's at T plus 6 hours. Hawaii, we're sending you so also turn off ECSO2 heater in spacecraft 6.

HAW — ECSO2 heater off, roger.

HAW	TM solid Gemini 7, Hawaii.
HOU	Roger, Hawaii.
HAW	Gemini 7, Hawaii Cap Com.
S/C	This is 7, go ahead, Hawaii.
HAW	O.K., how're you doing? We're showing you GO.
S/C	Roger, got a (garbled)
HAW	How about turning your transponder on at this time.
S/C	Roger. Transponder's on. Will you give us the GET of 6, please.
HAW	O.K., I'll give you a GET of 6. 168 minutes on my mark...Mark. Want another (garbled)
S/C	No, thank you. I got it. Thank you very much.
HAW	O.k. O.K., I'm going to switch over to 6 now. I'll be coming back to check to see if everything's going all right after I get him squared away.
S/C	Roger.
HAW	TM and radar solid on Gemini 6 at Hawaii. Gemini 6, Hawaii Cap Com.
S/C 6	Hawaii, Gemini 6. Go.
HAW	How're you doing up there?
S/C	Very good. Completed the plane change burn; no residuals. The fuel remaining is 75 percent.
HAW	O.K. You burned out all residuals and the fuel remaining is 75 percent.
S/C	That's affirmative. We're now back at the upper line.
HAW	O.K. If you get too warm, you can turn on your

secondary loop if you like.

S/C — Rog. We're getting warm now. I think we will turn on the secondary loop.

HAW — O.K. Will you turn ECS02 heater off.

S/C — Roger.

HAW — Got enough heat to maintain pressure and I've got this height adjust here if you'd like to cut me into the tweek burn.

S/C — Uh, roger, we'll give it a tweek.

HAW — O.K. Copy your pump is on. The GETB 030319 delta V 0.8. Your burn time 0+01, yaw and pitch are 0, core 2500008, cores 26 and 27 are 0. Use your aft thrusters, the maneuver is posigrade.

S/C — Roger, copy for the height adjust, GET of burn 03+03+19, Delta V 0.8, duration 0+01, yaw 00, pitch 00, core 2500008, 26, 27 all zeros. Aft thrusters, posigrade maneuver.

HAW — You got that allright. You are in good shape.

HAW — Flight 7 has got his transponder on, flight.

HOU FLT — Roge. We'd like GT-6 LOS main and Bravo, please.

HAW — Roger.

HOU FLT — Class 2.

HAW — Roger, everything's looking real good on both birds.

HOU FLT — I don't have any place to write that in my notes.

AW — Write what?

HOU FLT — Well, I've got my notes split here and when you say its all good in both birds I don't know where to write it.

HAW — Put a big S on it.

HAW — Gemini 6, Hawaii, do you need anything else?

S/C — Gemini 6 here, we are just watching the sun come up.

HAW — Roger, your cohort is doing real fine also.

S/C — Roger, very good, we haven't heard him since quite a long time ago.

AW — Okay.

S/C — Have they heard us yet?

HAW — Stand by, I'll give them a call.

HAW — 7, Hawaii Cap Com

S/C — Come in Hawaii.

HAW — Your cohort would like to know if you heard him call you?

S/C — We heard him talking to Houston, but we can't hear him calling us.

HAW — Why don't you give him one shout?

S/C — Hello, Gemini 6, this is 7, how do you read?

HAW — Doesn't sound like he got you yet?

HAW — 6, Hawaii.

S/C — No joy, no connection with him.

AW	Ok, probably by the next time around you'll be reading him loud and clear.
S/C/6	Very good.
HAW	We'll be standing by if you need anything.
S/C/6	(Garbled)
HAW	Say again.
S/C/6	Just tell him to keep going ..(garbled)
Haw	He'll be there when you get there.
S/C/6	Roger.
HAW	7, Hawaii, we have nothing further, we'll be standing by if you need us.
S/C/7	Roger.
AW	We have excellent telemetry flight on both vehicles. Gemini 7, telemetry LOS at Hawaii.
HOU FLIGHT	Roge.
HAW	Flight, Hawaii.
HOU FLT	Go ahead.
HAW	6 has got that thing so lined up we are getting hardly any activity at all in the OAMS.
HOUFLT	Roge.
HAW	Conserving that fuel.
CAP COM	California, go remote for 7.
HAW	LOS all systems on 6 at Hawaii.
CAL	California remote on 7
HOU FLt	Roger, Hawaii.

This is Houston, three hours, 5 minutes into the flight of 6 and two minutes ago spacecraft 6 made another very slight height adjustment, they burned only .8 foot per second, described here as a "tweeking" maneuver to their orbit.To recap on their maneuvers to date at one hour and 34 minutes 2 seconds into the flight they performed a 14.2 foot per second burn. This left them with 667 pounds of fuel remaining. That against an estimated total of 690 at takeoff. The additional fuel is used in the separation maneuver and the turnaround of the light in getting off their booster. Then at two hours and 18 minutes into the flight, they performed a 60.8 foot per second burn. This a phasing maneuver, and after that burn they read 611 pounds of fuel remaining. At two hours, 42 minutes 7 seconds into their flight they performed a plane changing maneuver, they burned 31.7 feet per second. This left them with 578 pounds of fuel. At 3 hours and 3 minutes, 19 seconds into the flight, they've just completed the tweeking maneuver, the .8 foot per second burn which leaves them with 577 pounds of fuel. They're next maneuver is to occur at 3 hours 47 minutes and 37 seconds. They will perform a 42 foot per second burn and this will be their circularization maneuver. We have now the, uh, beginning of the stateside pass, both spacecraft are just south of Houston at this point, approximately over Brownsville, starting across the Gulf and here's the conversation as it began via California.

CAP COM	Gemini 7, Gemini 7, Houston. How do you read?
S/C/7	Loud and clear. You can go ahead.
CAP COM	Roger. We're coming up on a second height adjust burn for 6. They'll be making that in slightly over 5 minutes from now.
S/C/7	Roger.